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### "THE WINDING ROAD."

By H. F. MAUDSLEY,  
Melbourne.

In the brief history of this Association, this is the first occasion on which we have had the honour of holding our annual meeting in Brisbane. I should like to thank the University of Queensland for allowing the Association the facilities of the University, and those members of the Queensland Branch of the Association who are responsible for the organization of this meeting.

It is the custom in many scientific as well as non-scientific bodies for the incoming president to deliver an address to an audience not wholly versed in the intricacies of the subjects later to be discussed.

Psychiatry has received its share of publicity, some of it not altogether desirable, hailing cures that have not received adequate clinical substantiation, or presenting psychiatry as a peculiar brand of medicine or indeed as a subject scarcely impinging on medicine at all.

The word "psychiatry" made its appearance in the English language about 1846, but has appeared in medical

parlance only within the course of the present century. Sir William Osler's text-book on medicine—the "Good Book" of medicine in my student days—gives no mention of the word, and only a passing glance at psychotherapy. *Punch's* articles on "the trick cyclist" gave the psychiatrist a certain piquancy, not perhaps without merit.

The roadway to any progress in human knowledge and development is beset with difficulties, and that along which the alleviation of mental and emotional illness travels has ever had its own peculiar difficulties. It is a road commencing in the dawn of civilization, winding through the ages, and gradually, one hopes, widening and becoming less difficult as knowledge and human understanding increase.

I would commend to you a passage from George Borrow's "Lavengro", in a conversation between the Wayfarer on the road and the Itinerant Gipsy:

"Life is sweet, brother."

"Do you think so?"

"Think so! There's night and day brother, both sweet things; sun, moon, and stars, brother, all sweet things; there's likewise a wind on the heath. Life is very sweet, brother; who would wish to die?"

"In sickness, Jasper?"

"There's the sun and the stars, brother."

"In blindness, Jasper?"

"There's the wind on the heath, brother; if I could only feel that, I would gladly live for ever."

<sup>1</sup> Presidential address, delivered at the annual meeting of the Australasian Association of Psychiatrists at Brisbane on August 20, 1956.

Sickness of the mind more than any other sickness will obscure the appreciation of the beauties and flavour of life, the moon and the stars are hidden behind dark clouds, and the wind does not blow sweetly off the heather. With the accumulation of knowledge and experience there is evidence of a cleaner and sweeter atmosphere along the difficult road that the study of mental illness has travelled.

Let us look back for a moment at the methods adopted by primitive man to evade threats of his welfare. Apart from having to sustain himself and ward off his enemies, he had to maintain health as best he might. The aid of spirits was invoked to prevent disease and restore health, and the priest or medicine man was vested with authority to be the advocate between man and the unknown. It might be said that psychotherapy was the earliest form of medical treatment, as all healing consisted of the banishment of demons. As civilization advanced, symptoms of disease became separated out, and the medicine man recognized the value of certain herbs and roots, and formulated some sort of classification of symptoms. Disorders of behaviour and emotions were recognized apart from physical illness, and epilepsy, mania, melancholia and dementia were regarded as visitations of evil. The early Greeks, however, regarded some forms of mental disorders as visitations of the deity, and as such the recipients were duly honoured and regarded as demigods, though later the gods wreaked vengeance amongst themselves by wishing some form of mental disorder upon one another. Juno, the wife of Jupiter, sent madness in the form of epilepsy upon her stepson Hercules—known in those days as *morbus Herculis*. Aesculapius, the son of Apollo, became the patron of medicine, and the temple of Hercules on the Island of Cos was founded in his honour. This was the first recognized hospital in early history.

Treatment of disease was still by sacrifice and prayer until the advent of the great Hippocrates, founder of medicine, who lived in the fourth century B.C. He learned his medicine in the Asculapian temple of health, but was the first to shed light upon the road and launched out with an entirely new conception of all disease and its healing. He denied its sacred origin, looked for natural causes, and taught that the brain was the seat of the highest function of man, and that mental illness was the result of a natural cause and subject to rational therapy. He also noted heredity and predisposition as factors in mental ill-health.

Galen in the first century A.D. described various parts of the brain and pointed out that this organ was the seat of voluntary movements, intelligence, emotions and memory; but Galen's conception of medicine was clouded by religion, over-emphasis and superstition. The ancient Romans following the Greeks set great store by mental and physical hygiene, and Sir Winston Churchill (1956), in his history of the English-speaking peoples, has pointed out that during the Roman occupation of Britain baths and central heating were commonplace in the Roman villas, and that such a situation did not occur again until the nineteenth and twentieth centuries A.D.

During the Middle Ages the road became almost entirely engulfed in a mass of ignorance and superstition. Torture and cruelty were the fate meted out to the unfortunate sufferers of mental disorder, though even during this period the foundation of Bethlehem Hospital in London during the thirteenth century showed evidence of a certain sense of civic responsibility towards the insane.

Bernard Hart, in his Goulstonian Lectures of 1927, notes a "sporadic appearance in the psychological point of view", quoting Henri de Monville's surgical treatise in the thirteenth century:

Keep up your patient's Spirit by music of viols and ten stringed psalteries or by forged letters describing the death of his enemies, or by telling him that he has been elected to a bishopric if a churchman.

Medicine itself was static and empirical, the Church having the prerogative of granting the right to "practice physic". In 1518 the College of Physicians, London, was founded, and Henry VIII granted it a Royal Charter a few years later. The granting of rights to practise medicine was taken out of the hands of the Church after the

Reformation. Great men such as Harvey became Fellows of the College, and paved the way to scientific medicine.

It is only in comparatively recent times that medicine and later surgery, with the development of basic sciences and the brilliant correlation of scientific facts with clinical observation, have truly come into the range of one of the learned professions. Medical knowledge, methods of prevention, and treatment have been changing rapidly over the years, and many diseases which were the scourges of humanity a short time ago have now been obliterated.

Sickness of the mind, in which disorder of behaviour or incongruous emotional reaction was a predominating factor, was almost unrecognized as a medical entity unless it could be proved the result of some grave brain lesion. Cerebral vascular disorders, tumours of the brain and later syphilitic and other brain infections, as well as injuries to the brain, were known to bring about mental sickness, and as such were recognized, but scarcely amenable to treatment except in the custodial sense.

Cullen, Tuke and Pinel in the eighteenth century advocated humane treatment for mental illness; but it was not until the middle of the nineteenth century that observers such as Kraepelin were attempting to classify the symptoms of mental illness, thus bringing mental disorders into some relation with scientific medicine.

Although clinical observation was accumulating, it was mostly in regard to the grosser forms of mental disorder. Irresponsible conduct and disordered behaviour, apart from that of the criminal, was the criterion of mental illness, and the McNaughten rules, which still hold sway in our courts of justice, were the discriminating factor between insanity and crime.

Those needing restraint and segregation from society were granted custodial care without much regard for their future, except by those men to whose charge they were entrusted. This is shown in Professor John Bostock's book, "The Dawn of Australian Psychiatry", which graphically describes the early mental hospital at Tarban Creek (Gladesville), New South Wales. It was not until the preventive aspects and early treatment of mental illness came under consideration that psychiatry was fully accepted as a branch of medicine.

Bethlehem Hospital in London had for many years admitted patients in the early stages of their illness, and great teachers such as Savage, Stoddart and Beaton stimulated the interest of the medical profession in the clinical aspects of mental and nervous disorders. Later institutions, such as the Maudsley Hospital in London, and the formation of out-patient departments in psychiatry attached to teaching hospitals and later to public mental hospitals, acted as a stimulus. In this country the Beattie-Smith Lectures in Melbourne stimulated the interest and study of early mental sickness.

Although medical science was concerned mainly with illness of organic origin, numerous cases were recognized in which symptoms presented themselves without a demonstrable physical background. The first World War brought this into prominence, as it was important when dealing with the psychoneurotic casualties to separate those symptoms which had a purposive basis from those in which the motivation was at an unconscious level.

In France, Charcot, at the Salpêtrière Clinic, and Janet, Déjerine and Babinski, of the Nancy School, had given thought to these problems and were preparing the way for the foundation of psychopathology; but it was the advent of Freud that placed psychopathology on a firm, though at first contentious, basis.

Sigmund Freud was born one hundred years ago, and was to become one of the most controversial figures of modern times. He was trained as a physician, and during his younger days sat at the feet of the foremost neurologist of his time, Charcot. He saw many cases in which diverse symptoms that had no physical background were dramatically abolished by the power of suggestion; but he could not accept the French school's dictum that individuals fall into the classes of those who are suggestible and those who are not. With the realization that these symptoms could be produced on an emotional basis, he conceived the

theory of a dynamic subconscious and unconscious mind. He traced the origin of these symptoms to conflicts at an unconscious level, commencing often at the infantile period of life.

Whether his teachings and therapeutic technique are now universally fully accepted or not, we must in this centenary year of his birth pay homage to one who has given us an insight into the amazing intricacies of the human mind, both in health and in disease. It is unfortunate that some of the half-digested Freudian theories that have been expressed have given a Rabelaisian flavour to this aspect of psychiatry.

The advancement in the knowledge of what we now call psychopathology has given great impetus to the investigation, understanding and treatment of mental illness. Many, perhaps even amongst our own profession, are prone to side-step the psychological approach and to rely upon the credulity of individuals to attain their ends—even if that end is to cure a patient of his immediate ills.

Lord Moran (1952), in a recent Harveian Oration, discussing a certain famous physician of a slightly older vintage, held that his success depended more upon his power to read men's minds than on his great knowledge of scientific medicine. This call for insight into human behaviour is a very valuable asset, but one not necessarily involving very deep psychological knowledge. In the same oration Lord Moran pointed out that even great minds can be crudely credulous, quoting the example of an eminent scientist who suffered from a hernia and insisted that this should be regularly massaged by his local butcher. It was not until the hernia became strangulated and gangrenous that he consulted a doctor—alas, too late!

However, it is the patient suffering from lingering symptoms, for which no satisfactory physical basis can be determined, whose credulity is especially open to the wiles of quackery, and even to the ministrations of well-meaning but misguided people, at times with disastrous results.

Following the acceptance of the deep-seated psychological content of many hitherto unexplained symptoms came the recognition of psychological medicine apart from insanity as part of general medicine. Symptoms formerly neglected, unless they could be physically tabulated, began to be recognized as the outward expression of some inward emotional disturbance or conflict. Even obvious physical illnesses, such as gastro-intestinal disorders, asthma and many others, were recognized in some cases to have an initial psychological background which, if elucidated, could influence the course of the illness.

The alienist, dealing almost solely with the more established forms of mental disorder, was replaced by the psychiatrist, whose practice covered the wider sphere of nervous symptoms, of the kind which did not necessarily involve hospital treatment and which were often treated somewhat superficially by the general physician.

Events then occurred which changed the face of physical treatment in psychiatry. Sakel and Meduna, working at Buda-Pesth and Vienna respectively in the early 1930's, introduced methods of treatment on a purely physical basis. Treatment by means of insulin coma and by artificial convulsions appeared to open the way to the treatment of schizophrenia, the most devastating mental illness which attacks young adults and adolescents.

During the last twenty-five years these methods of treatment have been modified and the technique has been improved. They have not quite fulfilled the original hope in the long-standing cases of schizophrenia; but it has been amply shown that symptoms can be temporarily relieved, and that such patients treated in their early stages may improve, or at least the course of their illness may be modified.

Even in the early stages of the introduction of these apparently rather uncouth methods of treatment, that gallant body of medical men, working hitherto under the frustrating conditions of an atmosphere of chronic mental illness, was stimulated with new hope. Psychiatrists throughout the world began to look more deeply into the physical factors which could bring about these changes,

and to consider whether early and incipient mental illness could be prevented from developing by these methods of treatment.

Unfortunately the word "shock treatment" has a frightening effect upon both patients and relatives, though the modification of electro-convulsive therapy with "Pentothal" anaesthesia and an intravenous injection of a muscle relaxant involves the least possible discomfort to the patient; the word "electroplexy" has been aptly used in place of "shock treatment".

There may be a tendency on the part of the public to over-emphasize this method of physical treatment. If used with discretion and judgement, electroplexy is a safe and efficient method of piercing the fog of superimposed symptoms which may obscure the true nature of the underlying condition, and as well it may render the patient more accessible to the psychiatrist. It is also true that a sudden acute mental illness, as well as states of depression, may give a response that will shorten the duration of these distressing conditions. Restraint and certification are becoming rarer as patients are voluntarily submitting themselves for treatment in mental hospitals, though there are times unfortunately when both may be necessary to prevent some of the frightful tragedies that we come across every now and again. While stressing its value, I would hasten to add that if such a form of therapy came to be regarded as the be all and end all of treatment, psychiatry would descend to a matter of mere mechanics, in which case heaven help psychiatry!

The resources of the physical and biochemical sciences and of experimental laboratories, and the study of electroencephalographic tracings, are being utilized in the attempt to find out in what way such forms of therapy affect the emotional centres, so that this somewhat empirical form of treatment may be satisfactorily explained and improved upon. It may be that stimulation or release of function may control certain hormones whose presence is vital to emotional well-being.

The operation of leucotomy has in the past few years received considerable attention, and much research has been done regarding its uses and the various methods of procedure. In the hands of a neurosurgeon the operation is safe, and the results in suitable cases may be extremely satisfactory.

Sedation has from far back times been a recognized method of controlling many forms of nervous and mental dysfunction, and the list of sedative drugs is long and expensively elaborate. Sedatives have a very definite place in all fields of medicine; but the long and continuous use of such drugs can be harmful, causing confusion and masking symptoms, as well as having certain physical disadvantages.

There have been introduced recently a number of drugs whose effects upon those deeper portions of the brain and brain-stem which might be termed the emotional centre have been carefully studied and tabulated. As each new drug appears on the market, there is a tendency to exaggerate claims based perhaps on over-enthusiastic but slightly uncritical reports. I may quote an extract from our past president's last presidential note (Blake-Palmer, 1956), pointing out that a famous French physician a century ago said: "Be sure to use these new drugs while they retain their curative properties."

A number of so-called tranquillizing drugs—first the ataraxics, indicating freedom from confusion when used over long periods, and secondly anti-depressants—have received much attention, and in Australia have been tested clinically and reported on most ably. I may here mention the work of Webb, Bower and Ellis (1955) in Melbourne, and of Morgan (1956) and Hilliard (1956) in Sydney. Of these drugs, chlorpromazine ("Largactil") and reserpine or "Serpasil"—alkaloid derivatives of the Indian snake root plant, *Rauwolfia serpentina*—have received most attention, both here and abroad. The value of these drugs has been amply shown, more perhaps in cases of chronic types of illness treated over fairly long periods. In these cases it has been reported that their use supersedes other perhaps more dramatic forms of physical treatment.



I am indebted to Dr. Ellis, of Melbourne, for his personal notes on the action of these drugs, and for his experience concerning their use. Besides "Largactil" and reserpine or "Serpasil", there are drugs such as "Franquel", "Suavitil", "Ritalin". It is pointed out that these drugs have somewhat similar clinical effects, but differ in their pharmacology, dosage and side effects, some of which can be distressing and even dangerous if not controlled. Their action is a direct one on the central nervous system, and the greatest effect is on the reticular formation where concentration of nerve cells is at its greatest. The tranquillizing or sedative effect is brought about probably by interference with cortico-thalamic connexion. We may be assured that no new drug makes its appearance in this country without adequate investigation as to its value.

Mention must also be made of the valuable and original contribution by Cade (1949) in Melbourne on the sedative action of lithium salts, and of the work by Gershon and Trautner (1954) on the action of succinic acid.

As the result of a general recognition of these improved methods of treatment, the public conscience awakened to the fact that better surroundings were needed if improvement was to be maintained. The squalid conditions of the former asylum atmosphere were beginning to disappear, the wards began to take on a new look, and outside aid from social workers and occupational therapists became part of a modern psychiatric hospital. I have seen a transformation in some of the wards of our old and grim mental hospitals brought about by tasteful furnishings and decorative wall-paper.

Social psychiatry is best seen in miniature in the modern psychiatric hospital, where open wards are being used to an increasing extent. The patients organize their own clubs, libraries and entertainments, and they are encouraged to show new patients round and to introduce them to the social life of the community. They form groups for psychotherapy, and take part in psychodrama—plays which depict a particular patient's difficulties in life are watched with intense interest by other patients, characters in the play being taken by patients and by members of the nursing and medical staffs. Interest is maintained, as each patient sees in the drama his own difficulties, and free and open discussion follows.

In the twenties of this century mental hygiene councils, founded on the principles laid down by the late Clifford Beers, consisted of a mixture of professional and interested lay persons. Those bodies stimulated the training of almoners, social workers and occupational therapists, who are essential to any modern psychiatric teamwork. The improvement of conditions of psychiatric nursing, the importance of trained psychologists, the cooperation of educationalists and the training of Children's Court probation officers all gradually became integrated into the conception of psychiatry. The scope of psychiatry itself became widened, and the growth of specialization within confines of psychiatry became evident. Child psychiatry, social psychiatry, marriage guidance and geriatrics all became recognized components of psychiatry.

With this modern expansion of psychiatry in all its branches, together with the widening scope of medicine itself, physicians who in former days treated nervous disorders as part of their practice began to realize that psychiatry outside mental hospitals was becoming a specialty with which they were unable to cope without some special knowledge and training.

In the earlier days of private psychiatric practice or extra-mural psychiatry, patients were referred to psychiatrists by doctors mainly for the purposes of certification, but those referred also included the hangers-on in a practice whose faces became so familiar that the practitioner was only too glad to refer them elsewhere. The out-patient departments were full of the chronic neurotics who had arrived at such a stage that nobody could handle them, and indeed many of these patients had become so inured to their own symptoms that they would have been lost without them.

With the increase and improvement of out-patient department facilities, together with the provision of psychiatric

beds in teaching hospitals, came the growth of psychiatry outside mental hospitals, and there was a great upsurge to investigate and treat persons presenting psychiatric problems in their early stages, and to improve the lot of the psychoneurotic.

Since World War II an increasing number of young physicians have undergone post-graduate training in recognizing and dealing with these conditions in their early and treatable stage, in consequence of which there are a large body of patients suffering from nervous disorders who never come under the observation and care of the State mental hygiene department.

There is perhaps a slight feeling that the man who is in constant touch with his patients, living in their environment with greater facilities for laboratory investigation, must have an advantage in knowledge over the man who sees patients in a consulting capacity, and visits them in hospital perhaps daily or not so often. This in many ways is true, although the man with a good grounding in medicine and psychiatry may be able to take a more individual and wider view if he takes cognizance of the domestic and home surroundings of his patients, and is thus more in touch with their daily life and routine.

Private hospitals are expensive, and the great disadvantage of treating patients in such a hospital is that one must try to hurry them through their treatment on economic grounds. Notwithstanding some of the shortcomings of extramural psychiatric practice, a great advantage is that the patient has the choice of his doctor—a principle that is being a little lost sight of in modern medical practice.

One hopes that the day will come when there are big voluntary psychiatric hospitals with paying and non-paying beds, where all doctors practising the art of mental healing will have the right to visit and treat a patient individually or as part of a team. Whether this should be under the aegis of a State mental hygiene department or not is a little contentious. Personally I should like to see such hospitals not under government control, but approved of and inspected by an association such as this. This may be somewhat visionary; but this hospital with all the auxiliary components—psychology, social work, occupational therapy, as well as electro-encephalography and laboratory investigation—would fill a great need in the various large centres in Australia.

I have endeavoured to bring before you a few points leading to the development of psychiatry, and to indicate the road it has travelled towards its development as a scientific branch of medicine. There is little doubt that psychiatry, provided it can be kept on its direct route, will enrich medicine in all its branches. Medicine and psychiatry spring from the same sources, and one hopes that modern medicine will accept the legitimacy of brotherhood. This it will do only if those who make psychiatry their life work will show that they are worthy sponsors of their cause.

It is of interest that this year's Maudsley Lecture is to be delivered by the President of the Royal College of Physicians, Sir Russell Brain.

Each country and nation has its own culture which gives colour to its own particular psychiatric problem, and so has its predominating therapeutic approach. In certain parts of the United States the psychoanalytical approach is predominant; Great Britain takes the middle course with a bias towards the physical approach. We as a British country are naturally tending to follow Great Britain in its wider view. It must be realized, however, that this country is rapidly receiving an infusion of migrants which must add some sort of colour to our racial culture; and so to presentation of our psychiatric problems.

This association was founded ten years ago from small beginnings. It was formed in order that psychiatrists from all over Australasia should meet and discuss their mutual problems. In consequence of this psychiatrists from Australia and New Zealand became known to one another, and within the States themselves the barriers that perhaps had existed between extramural and intramural psychiatry were broken down. Membership of this Association is



confined to those who have certain qualifications, so that like the Royal Colleges, it is a responsible body. It has performed certain useful functions; but if it has any real future it must be the mouthpiece of psychiatry on a national level. State mental hygiene departments have their own responsibilities and are fostering psychiatry within their sphere, and within their financial means at the highest level. However, these departments are under government control, and lack the autonomy that an association such as this should have.

For this association to grow in importance and to fulfil its natural function, it should have a voice in undergraduate and post-graduate teaching and in research. This is not the place to discuss teaching, important though it is; it must be left to the medical faculties to decide what part psychiatry will take in the medical curriculum. However, it can be stated that post-graduate teaching is flourishing under the auspices of the Association, and post-graduate lectures held in Melbourne have attracted young psychiatrists from different parts of Australia and New Zealand. A diploma of psychological medicine has been established by the Universities of Sydney and Melbourne, and for a time the University of Queensland granted a similar diploma, but some of the clinical facilities required to bring the diploma to the standard of the universities in larger centres were said to be lacking.

In Australia there are many able and gifted young psychiatrists, many of whom are overwhelmed with routine work. Nevertheless, in our own medical Press and on occasions in the medical Press abroad, there is ample evidence of original thought. Sometimes this is based upon work that has been done in other countries, but in not a few instances the work is in itself original and has been quoted in overseas journals. The State Mental Hygiene Department encourages these young men in their original work, but obviously cannot afford to give them facilities for whole-time research work. There are two things that this association should be in a position to foster and encourage. The first is the establishment of an Australasian journal in which those original observations can be put on record, and the second has to do with the means whereby young men with an original turn of mind can be given the facilities to carry out original work. Owing to the energy and enterprise of Dr. Alan Stoller, a quarterly newsletter presents the record of the association's activities; but it cannot give more than the bare outline of articles which would have more value if collected in the official journal of the association.

The association has no resources except subscriptions from its members, most of whom are salaried officers of the various State mental hygiene departments.

If psychiatry is going to advance in this country, financial aid must be forthcoming to deal with these problems. State Departments are themselves hard put financially to make both ends meet, but it is surely a Commonwealth Government function to see that a body such as this is in a position to carry out its ideals. Not only should the Government do this, but also private individuals and wealthy organizations, whose personal family happiness and well-being are dependent upon the mental health of their families and employees. In the case of organizations, a great deal of manpower is lost through nervous illness in the form of neurosis and even frank psychoses. Much expensive litigation concerning accidents and injuries received in the course of employment has as its basis a background of constitutional or acquired nervous and mental illness, all of which requires considerable thought and sorting out.

We have in this country—common, I am afraid, in all modern communities—a state of revolt in certain sections of our adolescents as seen in most bodgies and widgies who need investigation by social psychiatry. There is little need for me to tell you of what is needed for the amelioration of the lot of the elderly mentally infirm.

This association could also help to formulate a Mental Health Act common to all States. The rules governing forced admission to a mental hospital differ in different States, and it is rather ludicrous that a potentially dangerous paranoid certified in Victoria has only to cross

a State border to be outside the jurisdiction of any State mental hygiene department until he is recertified.

It is stated that alcoholic excess in either acute or chronic form is the aetiological factor in a large percentage of admissions to mental hospitals. Our facilities for treatment in these cases are woefully inadequate, for when acute symptoms subside the patient can and does leave hospital. "Alcoholics Anonymous" and "Antabuse" have only touched the fringe of a problem which legislation and research may help to solve.

Medicine and surgery have their universal appeal, and their respective Royal Colleges are comparatively reasonably endowed. Mental illness is the concern of State departments who are responsible for those admitted under their care, but the great mass of the potentially mentally ill who never see the inside of a departmental hospital are entirely neglected.

The Australasian Association of Psychiatrists is a body of experts; its membership is limited to those practising psychiatry, who have certain definite qualifications. It should be the natural body to deal with and administer research problems, and should be the chief advisory body of the Commonwealth Government in matters of mental health.

Pioneer work is being, and has been, done in the several States, and I should here like to pay tribute to the work done in Sydney by Professor W. S. Dawson, and in this city by Professor John Bostock, both former presidents of this association, and the holders of the only two professorships in psychiatry in Australia. At the same time I should like to welcome the new professor of psychiatry at the University of Sydney, Professor Trethowan, whose presence, I hope, will be felt not only in New South Wales but in the whole of Australia, and will add lustre to the association.

I should like to take this opportunity of expressing our appreciation of the past-president, Dr. Geoffrey Blake-Palmer, of New Zealand. He has done much to enlarge our horizon, and to bring New Zealand and Australian psychiatry into close touch with one another.

Perhaps the road is becoming smoother and wider, giving an opportunity for the sweet winds from the heather to blow across it. Common sense must prevail in all matters pertaining to health as in other walks of life.

Although I have spoken at some length concerning the particular specialty that this association is concerned with, I may perhaps add the quotation from Osler, "a wise man of the widest vision", though psychiatry as such did not come under his ken.

Next to the danger from small men is the serious risk of loss of perspective in prolonged and concentrated effort in a narrow field. Against this there is one safeguard, the cultivation of the sciences upon which the specialty is based. More than any of us he needs the lesson of the laboratory, and the wide contact with men in other departments which may serve to correct the inevitable tendency to a narrower and perverted vision in which the life of the anthill is mistaken for the World at large.

*Sic itur ad astra*—the winged Pegasus climbing towards the stars; perhaps Pegasus may be shorn of his wings so that he can continue on the road, while the stars have their feet firmly planted on the ground.

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## THE DIFFERENTIATION OF HYSTERIA FROM ORGANIC NEUROLOGICAL DISEASE.<sup>1</sup>

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RASH indeed would be the physician who claimed to be always able to distinguish hysteria from organic disease, yet the problem is an intriguing one and gives ample scope for exercise of clinical finesse.

In the dark sanctuary of hysteria there are symptoms or signs of disturbed function without adequate corresponding organic disease; the hysteric is unaware or incompletely aware of the purpose served by this disturbance of function, but thereby avoids an unpleasant circumstance or gratifies a thwarted wish. From the welter of expressions which such a situation may offer, it is proposed here to consider only those which are likely to lead the hysteric to a neurologist, excluding features liable to be seen by workers in other fields—for example, visceral symptoms, and purely psychiatric manifestations such as hysterical pseudodementia or an hysteric's subtle "acting out of an artificial psychosis" (Mayer-Gross, Slater and Roth, 1955). The differentiation of hysteria from organic neurological disease will therefore involve a just assessment of paralyses, anaesthesia, blindness, deafness, convulsions and the like, and also symptoms at once vaguer and less specific, such as headache and backache. The most difficult problems are frequently seen when hysteria and organic neurological disease are concurrent, as shown by the cases to be described, and organic disease may facilitate hysterical conversion of almost any symptom.

### Some Principles of Differentiation.

#### *Presence or Absence of Unequivocal Evidence of Organic Neurological Disease.*

Unequivocal evidence of organic neurological disease may be afforded by isolated signs, such as papilloedema, optic atrophy or paralysis of one external ocular muscle, but more frequently by patterns or combinations of symptoms and signs knit together by the laws of anatomy, physiology and pathology, which a medically untrained hysteric could not simulate with accuracy. Conclusive evidence of organic neurological disease may be revealed by ancillary investigations such as examination of the cerebro-spinal fluid, plain X-ray examination of the skull, intracranial arteriography, air encephalography, ventriculography, electroencephalography and tests of the electrical reactions of muscles. On the other hand, failure to detect unequivocal signs of organic neurological disease does not mean that a disturbance is necessarily hysterical. If organic disease is present, one must decide whether it is adequate to account for all features of the disturbance, so that hysterical exaggeration of an organic defect can be recognized.

#### *Inconsistencies in Hysteria.*

The neurological aspects of hysteria depend upon the notion of the disease entertained unconsciously by the patient; because this notion is ungoverned by precise laws of anatomy, physiology and pathology, paradoxical phenomena and discrepancies frequently arise and afford positive evidence in favour of hysteria. For instance, the lower limbs may be spastic during walking but show normal muscle tone when the patient is recumbent, or a person may be unable to converse above a whisper, yet may phonate perfectly when coughing. Sensory loss and motor paralysis in hysteria frequently fail to correspond with organic affections of nerve tracts, spinal cord segments, peripheral nerves or other neuro-anatomical parts. Hysterical symptoms and signs may be extremely variable, with a time pattern inconsistent with the behaviour of most pathological processes. In certain organic neurological conditions, however, such as disseminated sclerosis

and *myasthenia gravis*, clinical features may also vary widely from time to time. The more informed the hysteric, the more accurate may be the hysterical mimicry of organic disease; after repeated clinical examinations, or after being demonstrated to medical students, an hysteric with a crude imitation of an organic neurological disease may simulate the organic disease more closely. If the hysteric has been in close contact with a person suffering from an organic neurological disease, or has suffered from the disease in person on a previous occasion, or has received some medical training, imitation of organic disease will be the more accurate.

#### *The Unconscious Motive in Hysteria.*

It is of great diagnostic import in hysteria to discover how the patient seeks unconsciously to profit by the illness, and the patient should always be examined psychologically in order to display mental conflict which the illness is resolving. Detailed questioning of the patient, relatives or friends is sometimes necessary to elicit this information, which may be a vital link in the chain of positive evidence of hysteria. Nevertheless, plausibility of an unconscious profit motive can be misleading, for organic disease occasionally provides solution to a life problem; however, even when organic disease is present the uncovering of a motive may help in detection of hysterical elaboration.

#### *The Onset and Time Pattern of the Disability.*

The onset of hysteria is likely to be related to emotional disturbance, such as that accompanying a broken engagement, divorce, illness or death of a near relative, loss of means of livelihood or exposure to combat conditions in wartime. Injuries may be responsible for symptoms which are perpetuated and intensified by hysteria, especially if the injury is financially compensable. Symptoms of organic disease which has resolved may likewise be prolonged and elaborated by the hysteric. Recurrent hysterical attacks such as those simulating epilepsy rarely take place if the patient is beyond the reach of an audience; they tend to occur for a specific purpose or in response to a significant emotional situation. Hysterical symptoms may diminish if little or no attention is paid to them.

#### *The Attitude to the Symptoms.*

To the well-adjusted personality an organic neurological disability is an obstruction to normal living. Conversely, the hysterical refugee from reality is contented with a disability which provides unconscious solution to a problem, and may describe the symptoms with relish, enthusiasm and obvious exaggeration, making little real effort to surmount the apparent handicap. The placid indifference of the successful hysteric thus differs from the concern of the person restricted by organic disease from desired normal activities. However, euphoria and indifference to symptoms may sometimes be seen in such organic diseases as disseminated sclerosis and lesions of the frontal lobes of the cerebrum.

#### *Psychological Disturbances in the Past History of the Patient or Relatives.*

A history of psychological disturbances in the patient's past, a previous "nervous breakdown", or discharge from one of the armed services on psychological grounds, would support a diagnosis of hysteria or hysterical elaboration of organic disease. A history of psychological disturbance in the patient's relatives is helpful to a lesser extent. On the contrary, if a person has reached middle life or later without previous psychoneurotic reaction, despite times of stress or frustration, this would support a diagnosis of organic disease.

#### *Failure of the Hysterical Disability to be Complicated by Physical Injury.*

Sooner or later organically anaesthetic limbs are liable to sustain mechanical or thermal injury, but this is not usual in hysterical anaesthesia. In the organic ataxias and epilepsy, falling eventually tends to cause physical injury; this seldom occurs in hysteria, in which perceptible care in falling may aid diagnosis.

<sup>1</sup> Read at a meeting of the Queensland Branch of the British Medical Association on November 2, 1956.



### *Cure of the Disorder by Psychotherapy.*

A complete cure may follow detailed interrogation and symptom analysis, combined with explanation, persuasion, reassurance and suggestion, including the use of these measures when the patient is under the influence of such drugs as intravenously administered thiopentone sodium or methylamphetamine hydrochloride; this provides strong confirmation of the diagnosis of hysteria in many instances.

### *So-Called Stigmata of Hysteria.*

Most of the stigmata of hysteria have been long recognized. De Jong (1955) draws attention to vasomotor instability, hyperidrosis of hands and feet, and absence of conjunctival and pharyngeal reflexes; Curran and Partridge (1955) mention underdevelopment of the secondary sexual characteristics and lability of autonomic responses. These are of very limited assistance in differential diagnosis.

### *Aspects of Certain Hysterical Manifestations.*

#### *Hysterical Paralysis.*

Hysterical paralysis may simulate many organic paralyses, since hysteria can involve any musculature over which the person normally exerts voluntary control. Isolated muscles are not as a rule affected; rather is there paralysis of individual movements or groups of movements. The paralysis is commonly monoplegic, hemiplegic or paraplegic, but may be much more restricted—for instance, paralysis of one hand or even one finger. Contraction of antagonistic muscles can often be palpated when the patient attempts voluntary movement, and the hysterically affected muscles may be used during certain voluntary movements if the patient is unaware that the particular movements require use of these muscles.

If the paralysis is flaccid, the deep reflexes are not lost, and rapid muscle wasting, fascicular twitching and electrical changes characteristic of lower motor neuron lesions do not occur. If muscle tone is increased in the paralysed limb, the resistance to passive movement tends to be proportional to the force used by the physician, the plantar responses are not extensor unless the patient knows the significance of these, and true clonus is rare although the deep reflexes may be increased. When the recumbent person attempts to sit up by using trunk muscles without assistance of hands or elbows, the affected lower limb rises higher if paralysed by a pyramidal tract lesion, but remains on the bed or floor in hysteria unless the hysterical has been forewarned; if it can be elicited, this sign of combined flexion of hip and trunk ("Babinski's second sign") is reliable, provided that local lesions in the lower limbs do not interfere. Alvarez (1951) finds helpful the frequent inability of the hysterical with paralysis (or anaesthesia) of the lower limbs to withstand tickling of the soles of the feet, so that a foot may be withdrawn and the true nature of the disturbance indicated. Curran and Partridge (1955) state that hysterical paralysis of the forearm can usually be detected by flexing the supported elbow in supination and allowing the forearm to fall; in organic paralysis the forearm automatically undergoes pronation to fall with the palm of the hand downwards, but the hysterical patient, unless forewarned, will allow the forearm to fall in the supine position in which it started. There are many other diagnostic ruses at the disposal of the physician.

#### *Hysterical Anaesthesia.*

Almost any type of anaesthesia may be encountered, but glove and stocking varieties, hemianaesthesia and anaesthesia of one or more limbs are especially characteristic. The distribution of the anaesthesia does not correspond to that in organic affections of nerve tracts, spinal cord segments, peripheral nerves or other neuro-anatomical parts, but rather to the patient's notion of a finger, hand, limb and such like. In a limb, the upper level of the anaesthesia is usually horizontal and sharply demarcated and encircles the limb; it may vary from time to time, or on the same occasion if sensory testing is repeated in the reverse direction. In hysterical hemianaesthesia, sensory loss usually ceases abruptly at the mid-line, making no

allowance for the normal anatomical overlap of cutaneous nerves.

Usually all forms of cutaneous sensibility are affected, but joint sense is impaired less frequently. If joint sense is lost, there is sometimes a diagnostic discrepancy, as limb coordination may be accurate when the eyes are closed. Vibration sense is commonly lost, and in hemianaesthesia may be felt on one half only of the sternum; this could not have an organic basis. According to Janet (1925), if the patient is asked to say "yes" when a touch or prick is felt and "no" when these are not felt, the hysterical frequently answers "no" when an anaesthetic area is being examined.

#### *Hysterical Blindness.*

Hysterical blindness is often of sudden onset, and may be unilateral or bilateral, complete or incomplete. If sufficient visual acuity is present to permit charting of the visual fields, bizarre defects may be obtained unlike the pattern of any organic disease; for instance, the outline of the visual fields may become smaller in spiral fashion with progressive testing, and repeated tests may yield divergent results. Concentric contraction of the visual fields with "tubular" vision is a common hysterical visual defect. The pupillary reactions to light and the optic fundi are normal in hysterical blindness, but also in blindness due to destruction of the visual areas of both occipital lobes. Further, lesions in both occipital lobes may leave, as the only residual vision, small circular fields resembling the "tubular" fields of hysteria; however, these fields increase in size as the distance of the patient from the screen increases (Wagener and Rucker, 1955). In complete hysterical blindness, obstacles placed in the patient's path may be avoided, and blinking may be evoked by a sudden feint with the observer's hand towards the patient's eyes (Brain, 1955). In unilateral hysterical blindness, the use of prisms to produce diplopia, or the use of coloured letters and lenses, may reveal that vision is really present in the apparently blind eye.

#### *Hysterical Deafness.*

Hysterical deafness is usually complete and bilateral and of sudden onset. Frequently the patient can be awakened from sleep if called by name, but when awakened cannot hear. The vestibular reactions are usually normal, and the blinking response to a loud noise may be retained. Repeated tuning fork tests or audiographic examinations may yield divergent results, while the use of Barany's noise boxes will cause the patient to speak more loudly.

#### *Hysterical Convulsions.*

Hysterical convulsions rarely occur if the patient is alone or asleep. From epileptic convulsions, hysterical convulsions are distinguished by a more gradual onset, avoidance of injury in falling, absence of the definite sequence of true epileptic fits, increased violence of the movements if restraint is applied, the quasi-purposive character of the movements with kicking, struggling and clutching, and the occasional bizarre postures ("attitudes passionnelles"), while tongue-biting and incontinence of urine and faeces are usually absent. The hysterical may be flushed from exertion, but does not show cyanosis or stertorous breathing. The hysterical cry or scream of articulate words or even sentences is unlike the expiratory, inarticulate cry of epilepsy. Unconsciousness is usually not deep in hysterical convulsions, and the patient may be wakened by sharp commands or painful stimuli; but the epileptic is deeply unconscious and cannot be wakened during the seizure. Immediately after hysterical convulsions the corneal reflexes, the pupillary reactions to light and the tendon reflexes are all usually preserved; after an epileptic fit these may be lost and the plantar reflexes may become extensor. After hysterical fits the plantar reflexes are absent or flexor in type.

Occasionally a patient with epilepsy, successfully treated, develops atypical attacks based on psychogenic factors. Another difficulty is that some hysterics by over-breathing induce tetany and epileptiform convulsions.



### Hysterical Headache and Backache.

Headache and backache are frequently woven into hysterical patterns, especially after injuries potentially compensable from a financial viewpoint. Hysterical headaches have to be distinguished not only from headaches due to organic lesions and physiological disturbances of pain-sensitive structures within and without the skull, but also from headaches which occur with anxiety and emotional tension, and which are associated with prolonged

insomnia, weight loss or other signs supporting organically determined pain of such severity and persistence as the history would indicate. The headache or backache may not respond to the usual analgesic drugs. When the condition is one of hysterical persistence of pain after injury, the disability tends to yield readily to psychotherapy after financial settlement of compensation claims; but if continued compensation is paid in the form of a pension, attempts at psychotherapy may be very disappointing.

### Reports of Cases.

**CASE I.**—A married man, aged twenty-eight years, by occupation a truck driver, was referred to the neurological out-patient department of the Brisbane Hospital in April, 1956. He had fallen down a ship's hatch in 1953 and been told that subsequent back pain for a few weeks was due to "a slipped disc". In December, 1955, he had fallen from the running board of a stationary truck on to his back, and this fall was followed by considerable low-back pain for a few hours. The evening after this incident, when seated in an armchair, he suddenly noticed that he had "a cold feeling" from the waist downwards, with numbness and "a loss of feeling" below both knees, and that he could not move his legs at all. There was no back pain during this attack, which lasted about twenty minutes; the patient was then able to move his legs and walk fairly well. A few days later, while walking, he again noticed sudden weakness of his legs, which within a few seconds began to feel "very stiff", so that he fell over backwards and had to be carried to a bed. For about an hour he was unable to move any part of his lower limbs, which felt numb; gradual improvement ensued, and within a few days he could move his legs and walk well. Several days later a third attack occurred, similar to the second, except that the feeling of "stiffness" in the legs persisted a little longer. The patient stated that he had later been fitted with a plaster jacket, which he wore for six weeks. After removal of this plaster jacket he had fallen five times in the following seven weeks, because his legs felt weak and heavy and as if he had not full control over them. Numbness was not a feature on these occasions, and there had been no sphincter disturbances at any time. On being questioned the patient stated that his brother, when aged twenty-one years, had been discharged from the Royal Australian Air Force because of a "war neurosis".

Examination of the patient in April, 1956, revealed that in both upper limbs there was excellent motor power, in comparison with which there appeared to be significant impairment of the motor power in both lower limbs, especially dorsiflexion and plantar flexion of the ankles and flexion of the hips. Sensory functions were normal. The superficial and deep reflexes were normal, except that the right plantar response was doubtful, but the right hallux had been fractured thirteen months previously. Muscle tone was normal and there was no muscle wasting. In recumbency, limb coordination was normal, but the gait was slightly unsteady in a fashion consistent with moderate weakness of both lower limbs. No other clinical abnormality was noted. The patient was admitted to the Brisbane Hospital, where examination of the cerebro-spinal fluid and X-ray examination of the skull and spine revealed no abnormality. His gait then became spastic, with very little knee flexion; yet when he was examined in the recumbent position muscle tone in the lower limbs was normal. The patient was urged to walk properly, and he became emotionally distressed when his gait was retested. At times he would actively thrust his stiff lower limbs forward, at times drag behind him his right foot which became inverted; he fell three times, once with studied care into a physician's arms.

A diagnosis of hysteria was made, and the patient was transferred to the psychiatric department. Further questioning revealed basic insecurity about the responsibilities of his truck driving, coupled with fears that after his fall he might be unable to drive his truck. He was of rather small build and admitted that truck driving made him feel bigger than he really was—"the bigger the truck the bigger I would feel". There were also economic problems regarding his home. The patient appeared to achieve insight into the psychological implications of his situation, and to the accompaniment of soft tones of psychiatric reassurance recovered normal power in his lower limbs and a normal gait within a few days.

The recurrent episodes referred to the lower limbs did not suggest an organic traumatic lesion. Clinical examination revealed no unequivocal evidence of organic neurological disease, and the history of "war neurosis" in a sibling had to be borne in mind. The discrepancy between the spastic gait and normal muscle tone during recumbency

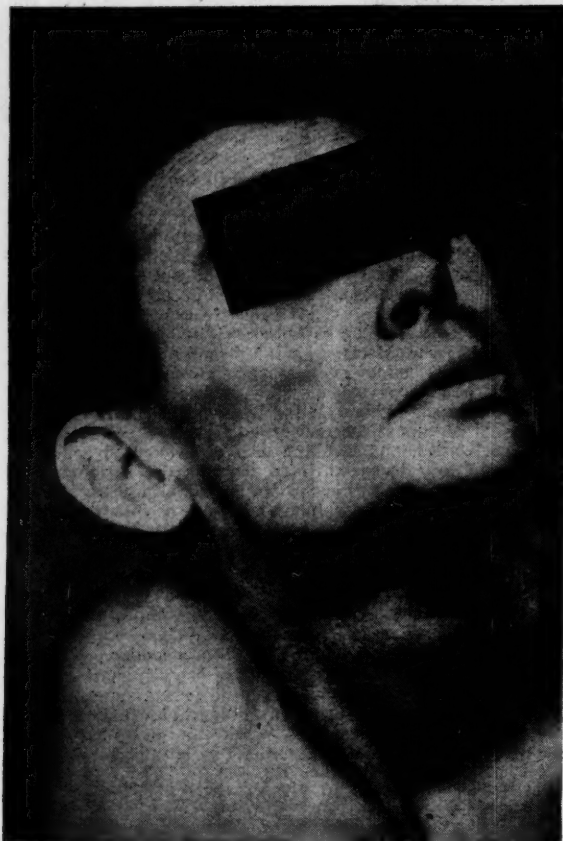


FIGURE I.

Spasmodic torticollis (Case IV). Contraction of the right sterno-mastoid muscle and face-turning to the left are seen.

contraction of muscles of the head and of the back of the neck. The anxiety headache is, as it were, a by-product of the injury, how much to a constitutional tendency to hysteria and how much to a desire for financial compensation. Recognition of hysterical headache or backache depends upon the absence of organic disease sufficient to explain the clinical picture, and of evidence of personality disorder and features of hysterical reaction in the past or present. The hysteric tends to complain of the ache in exaggerated terms, with some element of self-satisfaction; if he is cross-questioned, there is a tendency to vagueness; the symptom may be bizarre in quality, such as a feeling that a nail is being driven through the top of the head ("clavus hystericus"); the ache may shift perversely from one area to another. The hysteric's appearance does not suggest

After an injury to the head or spine, it may be difficult to decide to what extent persistence of pain is due to the injury, how much to a constitutional tendency to hysteria and how much to a desire for financial compensation. Recognition of hysterical headache or backache depends upon the absence of organic disease sufficient to explain the clinical picture, and of evidence of personality disorder and features of hysterical reaction in the past or present. The hysteric tends to complain of the ache in exaggerated terms, with some element of self-satisfaction; if he is cross-questioned, there is a tendency to vagueness; the symptom may be bizarre in quality, such as a feeling that a nail is being driven through the top of the head ("clavus hystericus"); the ache may shift perversely from one area to another. The hysteric's appearance does not suggest

indicated hysteria. This was confirmed by the subsequent frankly hysterical gait and complete recovery after psychotherapy. The disability following the fall from the truck was financially compensable.

**CASE II.**—A married woman, aged twenty-three years, was admitted to another hospital in February, 1955, with one day's history of severe headache, followed by pains in the neck and back, inability to sit up and weakness of the legs and left arm. On examination of the patient her temperature was 102.4° F., she was unable to sit up or lift

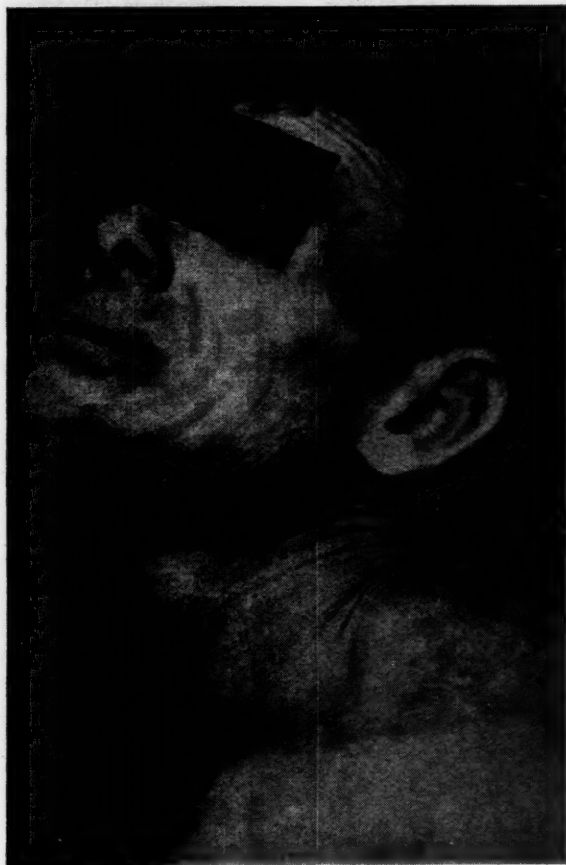


FIGURE II.

Spasmodic torticollis (Case IV). The patient also showed clonic movements of the left lower part of the face.

her lower limbs against gravity, and there was pronounced neck and back stiffness. It was reported that the left knee jerk was slightly increased. A full blood count and examination of the cerebro-spinal fluid revealed no abnormality. The following day the patient complained of numbness of the left arm and leg; the muscle weakness was more severe, but her fever had almost completely subsided. Twelve days later she was transferred to the Brisbane Hospital. She was then afebrile, and there was a left hemiparesis of considerable severity with moderate generalized weakness of the right lower limb in addition. She was unable to sit up without using her elbows or hands. There was no weakness of head movement. The patient could just stand when assisted to the upright posture, but was unable to walk because of the weakness of the left lower limb. To light touch there was left hemianesthesia, with a glove and socklet distribution of anaesthesia of the right hand and foot; there was a similar distribution of analgesia to pin-prick. Joint sense was absent in the left hand and foot, the responses on the right side being slow but correct. Vibration sense was diminished over the left wrist and ankle, but the patient said she could feel the vibrations of the tuning fork

well on both halves of the sternum. The superficial and deep reflexes were normal. Muscle tone was normal. Limb coordination was normal, except that when the eyes were closed the response to the left finger-nose test was hesitant and showed slight errors of projection. A second examination of the cerebro-spinal fluid revealed no abnormality.

A provisional diagnosis of hysteria was made, and the patient was transferred to the psychiatric department. After questioning and reassurance under the influence of methylamphetamine hydrochloride administered intravenously, details of sexual and religious problems were revealed; after this procedure the patient was able to walk normally. Four days later there was no clinical evidence of motor weakness or anaesthesia, and the patient felt well and was discharged from hospital.

Glove and socklet distribution of anaesthesia combined with contralateral hemianesthesia suggested hysteria. The left hemiparesis and weak right lower limb, in conjunction with normal superficial and deep reflexes, also suggested hysteria. However, postural sensibility is not commonly lost in hysteria, and the patient appreciated well the vibrations of a tuning fork on both sides of the sternum, which is not usual in such hysterical hemianesthesia. The weight of evidence nevertheless favoured hysteria, and rapid and complete recovery in response to psychotherapeutic measures supported this. The patient had a fear of contracting acute anterior poliomyelitis, and it seemed possible that this, coupled with the initial febrile illness and pains in the neck and back, might in part have suggested to the patient the course her malady might take.

**CASE III.**—A married woman, aged forty-four years, was admitted to the Brisbane Hospital in November, 1954. Ten days previously she had noticed a small pimple in front of her left ear. Over the next few days this pimple had enlarged and she had noticed much pain and swelling around the left ear and in the left side of the neck. Three days before her admission to hospital she developed severe frontal headache and her vision became blurred. One day before her admission she experienced right-sided chest pain, worse on deep breathing. For five days prior to her admission she had been treated with penicillin given intramuscularly and chlortetracycline given orally.

Examination of the patient in hospital revealed her to be an obese woman in moderate respiratory distress and with a temperature of 102° F. There was a furuncle about two centimetres in diameter in front of the left ear, the left side of the face and the left ear were oedematous and the left external jugular vein was thrombosed. Over the right lung base resonance to percussion was diminished, and there were crackling rales during inspiration and expiration. There was slight neck and spine stiffness, but Kernig's sign was not elicited. Vision was impaired so that the patient could not count fingers at a distance of 12 inches, but she could distinguish light from dark. There was moderate limitation of left lateral conjugate gaze with slight limitation of upward conjugate gaze. The optic fundi appeared normal. Abdominal examination revealed five laparotomy scars and tenderness in the right hypochondrium. An X-ray film of the chest showed an opaque area at the base of the right lung consistent with a pneumonic process. Blood culture produced a growth of hemolytic *Staphylococcus aureus*, coagulase-positive, resistant to penicillin but sensitive to tetracycline, chloramphenicol, streptomycin and erythromycin. Staphylococci with similar characteristics were grown on culture from the furuncle and the urine, but not from the sputum or cerebro-spinal fluid. Examination of the cerebro-spinal fluid revealed no abnormality. The leucocytes in the blood numbered 16,000 per cubic millimetre, 80% being neutrophilic cells. The patient was treated with anticoagulants and antibiotics and the pyrexia rapidly diminished; however, evening rises of temperature to about 99.5° F. continued for about three weeks.

Six days after her admission to hospital vision had deteriorated, so that the patient was unable to perceive with either eye the light of a bright torch. She still complained of aching in the forehead and behind the eyes, and the ocular movements were unaltered, but otherwise her condition was much improved. The pupils reacted briskly to light. The patient did not blink in response to a feint towards her eyes with the observer's hand. During one examination the patient breathed at a rate of 62 shallow respirations per minute; she was reassured and given two five-grain tablets of acetyl salicylic acid as a placebo; within half an hour her respiratory rate was 18 per minute and the respiratory depth was normal. In bed the patient behaved in a manner consistent with complete blindness as regards reaching for and manipulating objects; when an observer stealthily moved

such objects she betrayed no immediate awareness of this. Yet she appeared little concerned about her loss of vision; rather was there a faint air of euphoria, especially when she was questioned sympathetically. She resisted attempts at taking a detailed psychological history and refused to be interrogated under light anaesthesia.

The patient was then isolated behind screens in a corner of the ward, all contact with visitors and other patients being rigidly prohibited. After a few days it was said within her hearing that repeated lumbar punctures (which she disliked intensely) would be necessary until her vision was restored.

Over the next three or four days, with the strict isolation and threat of repeated lumbar punctures, combined with reassurance so that her self-esteem would not be too greatly injured, she was persuaded first to distinguish light from dark, then to count fingers, then to read newspaper headlines and finally to read one-quarter-inch printed type with either eye. By this time the range of ocular movements was normal.

The signs of organic illness dominated the clinical picture on the patient's admission to hospital: local skin infection, fever, pneumonia, a thrombosed vein in the neck and a positive result from blood culture. When supragenicular blindness developed (as evidenced by the pupils reacting to light), it was difficult to determine whether such blindness was due to intracranial thrombophlebitis involving both occipital lobes of the cerebrum or to hysteria. The first tangible sign leading to the correct diagnosis of the blindness was the episode of rapid shallow breathing, and subsequent events indicated that the blindness was hysterical.

**CASE IV.**—An unmarried male meat-worker, aged twenty-two years, was admitted to the Brisbane Hospital in February, 1956. Eighteen months previously he had first noticed involuntary twitching of the left side of his face and spasms turning his face to the left. Initially these movements occurred only at home, but after about a month they were present also at work. He then noticed that at times he could speak only in a whisper. Over succeeding months the turning movements of his head became more constant and more difficult to resist. He became the subject of teasing at work and in the hotel bars he frequented, and therefore was involved in numerous fights. By July, 1955, he could not speak at all except in a whisper; however, he could sing when partially intoxicated. Hence he became a centre of attraction in hotel bars, where after being plied with liquor he could sing but could not talk above a whisper. The patient stated that he had eventually decided to come

to Brisbane on account of the number of fights in which he had been involved.

Examination of the patient at the Brisbane Hospital revealed pronounced spasmodic torticollis, the face being turned to the left. The right sterno-mastoid muscle showed conspicuous spasmodic contractions, and there were associated involuntary clonic movements of the left lower facial muscles. (See Figures I and II.) By an effort of will the patient could correct the torticollis for a few seconds, but his face would soon turn forcibly again to the left. The tongue when protruded would at times deviate involuntarily to the left. No frankly choreiform movements were observed.

The patient could converse only in a whisper, but by so doing could give a connected history. However, his intelligence and educational attainments were poor. When urged to cough he phonated normally. Limb coordination appeared normal, and the gait was normal apart from the altered posture of the trunk due to the spasmodic torticollis. Writing was not affected, and the patient had no difficulty with eating. No other relevant clinical abnormalities were noted. Examination of the cerebro-spinal fluid revealed no abnormality and the Wassermann test produced negative results in the blood as well as in the cerebro-spinal fluid. An ear, nose and throat surgeon reported that the vocal cords moved normally and that the patient cleared his throat and coughed normally. Under the influence of intravenously administered methylamphetamine hydrochloride the patient was able to phonate normally in singing and talking many times for periods of about ten seconds. There was a strong family history of Huntington's chorea, which included classical clinical manifestations in a brother and a half-cousin,

and more limited defects such as dysarthria in certain other family members.

It was difficult to be certain of the true nature of all features in this patient. It seemed inescapable that the dysphonia was hysterical; ordinarily he could converse only in a whisper, but could phonate when coughing, when singing under the influence of alcohol, and when talking as well as singing under the influence of intravenously administered methylamphetamine hydrochloride. At the time of observation the defect of speaking seemed clearly a whispering dysphonia, not primarily an incoordination between respiration and phonation, with interruption of the latter, as may occur in Huntington's chorea (Wilson and Bruce, 1954). The family history of Huntington's chorea made it seem probable that the spasmodic torticollis,



FIGURE III.

Hysteria superimposed upon Sydenham's chorea (Case V). The attitude is dramatic, the left hand shows the so-called "choreic posture" and the tongue is protruded to the left.



rather than being hysterical, could be the result of organic extrapyramidal disease related to the onset of Huntington's chorea. Future events should clarify this point.

**CASE V.**—An unmarried female school teacher, aged twenty-seven years, was admitted to the Brisbane Hospital in February, 1956. She stated that three weeks previously she had had a sore throat. For the week prior to her admission to hospital she had been dropping things and had noticed difficulty in using her hands because they would jerk and move spontaneously. Six days before her admission she had had pain in the right side of the jaw lasting about two days; for three days before her admission she had experienced recurrent pains in her right knee, left shoulder and left elbow.

Examination of the patient revealed widespread, constantly recurring involuntary movements resembling those seen in chorea; however, flexion and extension of the spine as a whole and movements of rotation at the proximal joints of the limbs occurred more conspicuously than is usual in chorea. Certain signs, classically described in chorea, were observed; when she was asked to hold her hands out in front of her one or both forearms hyperpronated and the hands tended to assume the so-called "choreic posture", with slight flexion of the wrist and hyperextension of the metacarpophalangeal joints; the hand grip was characteristically waxing and waning; when she was asked to show her tongue, this organ was protruded and withdrawn with great rapidity. The violence of the involuntary movements was such that the patient fell out of bed before bed rails were provided, and abrasions of her elbows, right temple and right knee necessitated placement of numerous pillows to protect these parts. She showed considerable emotional instability, tearfulness and embarrassment. There was no objective evidence of joint inflammation. Examination of the cardiovascular system revealed a pulse rate of 124 per minute and a soft mitral systolic murmur, but no evidence of cardiac enlargement. An X-ray film of the chest revealed no abnormality. The electrocardiogram indicated a left bundle branch block. The erythrocyte sedimentation rate was normal. The faeces were slightly injected; cultural examination of a throat swabbing led to a growth of *Streptococcus viridans* and *Neisseria catarrhalis*. In 1952 and again in 1954 the patient had been admitted to hospital with similar symptoms, and on these occasions, too, there had been electrocardiographic evidence of left bundle branch block.

The patient was treated by rest, sedation, the administration of acetyl salicylic acid and isolation behind screens in a corner of the ward. Her temperature rose in the evening to 99.5° F. for a few days and then remained below 99° F. The joint pains disappeared after the exhibition of acetyl salicylic acid, and subsequently the soft mitral systolic murmur was not heard.

However, the involuntary movements progressively worsened; articulation became interfered with; not only did the patient become incapable of feeding herself, but it became impossible for one nurse to feed her with a spoon, and a second nurse was necessary to restrain the patient physically. About four weeks after her admission to hospital the patient had to be tube fed. The involuntary movements were much exaggerated when the patient knew she was being observed. She protested, perhaps a little too much, that she wanted to go back to work forthwith. Yet she was quite unable to sit up unaided because of violent involuntary movements of the trunk. When assistance was available, the harder one tried to sit the patient up the greater seemed the resistance of the post-vertebral muscles; at times she tended to opisthotonos. Psychiatric advice was sought in consultation, and while certain torrid emotional events in her past life became apparent, the patient obstructed attempts to uncover details of present emotional problems. She manifested irrational fear at the prospect of transfer to the psychiatric department for treatment and refused such transfer. When further observation had confirmed the opinion that most of her involuntary movements were hysterical, a firm ultimatum was issued that if the abnormal movements did not cease during the next two days she would be transferred to the psychiatric department for treatment whether she liked it or not. (See Figure III.)

Within forty-eight hours the patient could sit up unaided, over 90% of the involuntary movements having disappeared, and she could feed herself if supervised. When assisted to walk she at first held her right lower limb rigidly extended at the knee with the right foot inverted; attention was drawn sharply to this and she was told brusquely to walk properly, which she did. During the whole of the next few days the patient was able to sit, walk, eat and talk normally, with no more involuntary movements than might be seen in the slight restlessness of an embarrassed adolescent. She was then discharged from hospital and attended

a psychiatric clinic as an out-patient. After a month or so she returned to her work as a school-teacher.

An antecedent sore throat, joint pains, slight fever, involuntary movements, a transient soft cardiac murmur and an electrocardiographic abnormality made an initial diagnosis of Sydenham's chorea seem convincing. Equally convincing towards the end appeared a diagnosis of hysteria. At what stage the pilability of the hysteric first made use of the underlying chorea is uncertain, but even when she was first examined some of the movements were a little unusual for chorea. It had to be remembered that, on her previous admissions to hospital, the patient had been shown to students more than once, and many of the classical signs of chorea had been demonstrated. The diagnosis was considered to be hysteria superimposed upon Sydenham's chorea.

#### Conclusion.

Hysteria should always be considered as a possibility when organic disease, adequate to explain all the symptoms and signs, has not been conclusively demonstrated. Nevertheless, it is not always possible to differentiate hysteria from organic neurological disease at first, however comprehensive and painstaking the history, physical examination and relevant ancillary investigations, and however astute the physician. Time may be the greatest physician of all; or in the words of one who watched the practice of deceit: "Time shall unfold what plighted cunning hides." (*King Lear*, I, 1.)

#### Acknowledgements.

I am indebted to Professor Douglas Gordon, of Brisbane, and Dr. A. H. Berry, of Mackay, for referring two of the patients, and to Dr. R. A. Douglas, of Townsville, for information regarding the family history of the patient in Case IV. Thanks are also due to Dr. N. V. Youngman, who examined four of the patients in consultation regarding psychiatric management.

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#### THE EFFECT OF TRIIODOTHYROACETATE ("TRIAC") IN HYPERCHOLESTEROLEMIA.

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LEHRMAN and Pitt-Rivers (1955) and Trotter (1955) reported the response of patients suffering from myxedema when treated with triiodothyroacetic acid ("Triac"), an analogue of triiodothyronine; there was a fall in the blood cholesterol level disproportionate to the rise in the basal metabolic rate. Trotter (1956) showed that "Triac" depressed the blood cholesterol level with only slight effect on the basal metabolic rate in three hypothyroid and three euthyroid patients; two of the latter had coronary artery

<sup>1</sup> Working with the aid of a grant from the National Health and Medical Research Council of Australia.

disease and had previously had thromboses. The possibility that "Triac" influenced the blood cholesterol level to a relatively greater extent than the basal metabolic rate, as compared with other thyroid derivatives, suggested that it might be a valuable drug for lowering blood cholesterol content (Trotter, 1956; editorial, 1956; Boyd, 1956). The present paper describes our experiences with "Triac".

### Methods.

The basal metabolic rate was estimated by the standard Benedict-Roth technique. Blood was collected in the fasting state, and the serum cholesterol content was estimated by the method of Kenny (1952), and the total serum lipids by the turbidimetric method of Kunkel *et alii* (1948).

The nine patients selected for study had hyperlipæmia (total serum lipid content over 750 milligrammes per 100 millilitres) and hypercholesterolaemia (serum cholesterol content over 250 milligrammes per 100 millilitres) from various causes. "Triac" was administered orally in doses of one milligramme of the sodium salt three times a day for a maximum period of twelve weeks, after base line values for serum cholesterol and lipid contents and basal metabolic rate had been established.

### Results.

The summarized results are set out in Table I.

The type of response described by Trotter (1956)—a fall in the plasma cholesterol level, the basal metabolic rate remaining unchanged—was observed in seven of our nine cases. The cholesterol level fell to a minimal value within four weeks. However, the level then rose gradually, and in four cases pretreatment levels were reached at the conclusion of the study.

In two cases (Cases I and II) "Triac" therapy was discontinued because of angina, one patient (Case II) displaying clinical and electrocardiographic evidence of increased myocardial ischaemia whilst taking the drug.

### Reports of Cases.

CASE I.—A previously healthy man, aged forty-two years, suffered a classical coronary occlusion with a recurrence of severe pain after three weeks of bed rest. The electrocardio-

gram showed a posterior infarct. The serum cholesterol level was moderately elevated. After three weeks he was free of pain, and "Triac" was then given for eight weeks. The serum cholesterol level fell significantly, but angina occurred on minimal exertion; "Triac" therapy was discontinued, with relief of angina. The basal metabolic rate was unchanged throughout.

CASE II.—A man, aged sixty-three years, had anginal pains on exertion for six years and symptoms of myxedema for four years. His angina was worse when he was under treatment with thyroid extract. The serum was milky, with elevated total lipid and cholesterol levels. These levels fell under "Triac" treatment, but as little as one milligramme per day caused increased angina and breathlessness, so he ceased taking it.

Further studies on this patient were undertaken in hospital. Serial basal metabolic rate estimations produced an unchanged figure of -25% for twenty-four hours after ingestion of one milligramme of "Triac". Serial electrocardiograms remained unchanged, showing a constant flattening of T waves and slight depression of the S-T segment in the anterior chest leads.

Under fasting conditions, without "Triac", the patient was exercised by a step test to the point of angina. This occurred after 16 steps, when the electrocardiogram showed three millimetres' depression of the S-T segment in the anterior chest leads. The resting state electrocardiogram was restored after five minutes.

Four hours after the ingestion of one milligramme of "Triac" the test was repeated under identical conditions and showed significant changes. After 11 steps the patient complained of severe angina. The electrocardiogram showed four millimetres' depression of the S-T segment. The resting state electrocardiogram was restored after twelve minutes.

We conclude that "Triac" deleteriously influenced cardiac metabolism in this case, despite its having no demonstrable effect on the basal metabolic rate.

In one case (Case VIII) a thyroxine-like response occurred; that is, the cholesterol level fell and the basal metabolic rate rose. This was associated with a striking improvement in the total clinical picture.

CASE VIII.—A woman, aged thirty-nine years, had obstructive jaundice of six months' duration, with xanthomata of the eyelids and palmar creases. Laparotomy revealed a normal extrahepatic biliary system. Liver biopsy and normal findings in an operative cholangiogram supported the diagnosis of primary non-obstructive biliary cirrhosis. "Triac"

TABLE I.  
Effect of "Triac" on Serum Cholesterol and Lipid Levels in Hypercholesterolaemia.<sup>1</sup>

Case Number.	Sex.	Age. (Years.)	Diagnosis.	Duration of "Triac" Therapy. (Weeks.)	Serum Cholesterol Levels. (Milligrammes per 100 Millilitres.)			Serum Lipid Levels. (Milligrammes per 100 Millilitres.)		Basal Metabolic Rate. (Percentage.)		Remarks.
					Initial.	Minimal.	Final.	Initial.	Final.	Initial.	Final.	
I	M.	43	Idiopathic non-xanthomatous hypercholesterolaemia.	8	556	340	340	1140	1180	+ 8	+11	Trial discontinued because of angina.
II	M.	63	Myxedema.	5	600	480	504	3920 (m)	3120	-25	-25	Trial discontinued because of angina; 0.5 to 1.0 milligramme of "Triac" given daily. No clinical hyperthyroidism—final basal metabolic rate not obtained.
III	M.	44	Pancreatitis, hyperlipæmia.	6	400	230	270	1280 (m)	1140	+23	—	
IV	M.	28	Pancreatitis, hyperlipæmia.	12	550	380	540	4960 (m)	5440	+ 8	+10	
V	M.	56	Nephrotic syndrome.	4	430	385	485	1290	970	+ 5	—	Trial discontinued—patient admitted to hospital for unrelated condition. No clinical hyperthyroidism.
VI	M.	42	Idiopathic hypercholesterolaemia xanthoma tuberosum.	12	730	612	790	3120 (m)	3760	+ 1	0	
VII	F.	63	Rheumatoid arthritis, diabetes mellitus, mild myxedema.	12	255	205	250	780	710	-14	-10	
VIII	F.	38	Primary xanthomatous biliary cirrhosis.	12	1240	710	710	4880	2640	-20	+ 6	Remission of disease during trial.
IX	F.	41	Idiopathic hypercholesterolaemia xanthoma tendinosum.	2	395	395	570	1330	1450	-22	—	Death occurred suddenly during trial.

<sup>1</sup> "m" indicates milky serum.

was given for twelve weeks. There was a progressive fall in the serum levels of cholesterol and lipid, with relief of pruritus and an unexplained fall in the serum bilirubin level from 8.0 to 2.4 milligrammes per 100 millilitres. There was no resorption of the xanthomatous deposits. The basal metabolic rate rose from -21% to +6%.

In one case (Case IX) the cholesterol level rose during "Triac" treatment. This patient had angina, and died suddenly during the trial.

**CASE IX.**—This case has been previously reported by Joske (1955) as Case VI. A woman, aged forty-one years, developed angina and breathlessness on exertion in 1948. In 1952 xanthomatous tendon nodules appeared. The serum cholesterol level was constantly elevated. The electrocardiogram showed minimal abnormality. Stellate sympathectomy and later posterior rhizotomy were performed in 1954, with temporary benefit. While taking "Triac" the patient noticed a slight increase in the severity of the angina, and died suddenly after taking "Triac" for two weeks. Autopsy revealed an extensive old myocardial infarction. There was no fresh infarction or recent coronary thrombosis.

There was no significant change in body weight in any of the patients studied. The changes in the total serum lipid levels were not regarded as significant.

#### Discussion.

Most thyroid derivatives are known to produce a lowering of serum cholesterol level coincident with a rise in the basal metabolic rate. This may be attributable to a negative caloric balance (Strisower *et alii*, 1954). In keeping with the findings of Trotter (1956), the thyroxine analogue "Triac" depressed the serum cholesterol level without causing an elevation of the basal metabolic rate or a change in the thyroid status in seven of our nine patients.

We consider, however, that "Triac" has limited value as a cholesterol-lowering drug. The dissociated fall in cholesterol level which did occur in seven of the nine patients studied was poorly sustained. This may be explained by refractoriness to the drug, as suggested by Zondek *et alii* (1956). Moreover, the lack of basal metabolic rate response does not necessarily indicate that "Triac" fails to influence tissue metabolism. Trotter (1955) suggested that "Triac" might cause a transient rise in basal metabolic rate; however, we failed to detect this by serial estimations over a twenty-four hour period, after a single oral dose. "Triac" apparently increased myocardial ischaemia in three patients with coronary artery disease and may have contributed to the death of one of them. This may have resulted from an undetected increase in general metabolism; or alternatively, "Triac" may have a relatively selective action on the oxygen requirements of certain tissues, particularly the myocardium.

#### Conclusions.

"Triac" qualitatively resembles other thyroid derivatives in its action on the serum cholesterol level. Often there is no change in the basal metabolic rate. This apparent dissociated effect of "Triac" is probably due to the insensitivity of the basal metabolic rate estimation as an index of increased metabolic requirements of specific tissues. Furthermore, the occurrence of angina in some patients suggests that "Triac" is not generally applicable as a cholesterol-lowering drug in patients with coronary artery disease.

#### Summary.

1. The effect of triiodothyroacetate ("Triac") was studied in nine hypercholesterolaemic patients.
2. The previously reported effect of "Triac" in lowering the serum cholesterol level without altering the basal metabolic rate or thyroid status was observed in seven of the nine patients studied; but in six of these the lowered cholesterol level was not sustained.
3. In three patients ischaemic heart disease was aggravated by the drug.

#### Acknowledgements.

We are deeply indebted to Dr. Alfred Bardsley for assistance in this study. Miss Beryl Splatt kindly under-

took the basal metabolic rate estimations. Supplies of "Triac" were obtained through the courtesy of Glaxo, Proprietary, Limited, Melbourne.

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#### Addendum.

Since the submission of this paper, we have become aware of the findings of Barker and Lewis (1956). They showed that, in tissue slices, "Triac" caused a greater increase in oxygen uptake of rat myocardium than did other thyroxine derivatives.

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### THE EFFECT OF TRIIODOTHYROACETATE ("TRIAC") ON SERUM CHOLESTEROL LEVELS.

By J. S. MENZIES AND W. F. COOPER,  
Melbourne.

THE relationship between serum cholesterol levels and the incidence of myocardial infarction now appears well established. It has also been shown that serum cholesterol levels are highest in the upper income group, and that myocardial infarction is more frequent in this group. Discussions of these relationships have appeared recently (Bronte-Stewart *et alii*, 1955; editorial, 1955; Oliver and Boyd, 1956).

It has been suggested that long-term suppression of serum cholesterol levels may reduce the incidence of myocardial infarction in susceptible subjects. Triiodothyroacetate ("Triac") is stated to have the effect of lowering serum cholesterol levels without increasing the metabolic rate and has been suggested as a satisfactory cholesterol-lowering agent (Trotter, 1956). The rationale of this treatment and its effects in hypercholesterolaemic patients have been discussed by Mackay *et alii* (1957).

This paper describes the results of "Triac" treatment on the serum cholesterol levels of ten overweight business executives.

#### Materials and Methods.

The subjects of the study were from social class I (Registrar-General, 1954) and exhibited moderate to pronounced clinical obesity, four of the group being more than 28 pounds overweight according to the Life Offices' Association Table for Australasia. They were selected from male business executives of a large industrial concern. They ranged in age from thirty-six to sixty-one years, the average being forty-five years. Their daily activities were not altered during the trial.



Blood samples were taken in the fasting state, before commencement of the trial, and on the seventeenth, forty-second and sixty-third days of treatment with "Triac" given orally. The serum cholesterol content was estimated by the method of Kenny (1952). "Triac" was administered as sodium triiodothyroacetate, in a dosage of three milligrammes by mouth daily for forty-two days, followed by four milligrammes by mouth for a further twenty-one days.

### Results.

The results are summarized in Table I.

TABLE I.

Case Number.	Patient's Age (Years.)	Fasting Serum Cholesterol Content. (Milligrammes per 100 Millilitres.)			
		Before Trial.	At 17 Days.	At 42 Days.	At 63 Days.
I	61	485	348	—	—
II	38	414	382	324	345
III	47	405	344	345	392
IV	44	325	294	315	327
V	44	320	244	283	267
VI	45	280	232	209	185
VII	36	250	300	274	243
VIII	30	230	243	237	—
IX	40	225	297	219	220
X	48	224	290	—	—

In the cases above the line the patients are considered to be hypercholesterolaemic.

Six subjects had pretreatment serum cholesterol levels higher than 250 milligrammes per 100 millilitres and were considered to be hypercholesterolaemic. In each of these subjects (Cases I to VI) there was a fall in the serum cholesterol value with "Triac" treatment. However, in two subjects (Cases III and IV) pretreatment levels were reestablished by the end of the trial.

In the remaining four subjects (Cases VII to X) pretreatment cholesterol levels were considered to be within the normal range. "Triac" produced no lowering of the cholesterol levels in these subjects.

One subject (Case X) died during the trial.

This patient, aged forty-eight years, had *angina pectoris* of moderate severity for the previous eighteen months. The electrocardiogram was normal. He received "Triac" treatment for seventeen days, during which period there was no increase in the severity of the angina. On the seventeenth day of the trial he developed severe retrosternal pain and died suddenly. This occurrence was considered due to myocardial infarction, but no autopsy confirmation was obtained.

### Comments.

No figures for serum cholesterol levels of a representative Australian population are available for comparison with the levels obtained in the group studied. However, the initial fasting serum cholesterol levels of these subjects are considerably higher than those reported from overseas (Aldersberg *et alii*, 1956). In view of the relationship between high cholesterol levels and myocardial infarction, it would appear that the overweight Australian business executive is exposed to an extremely high risk of coronary artery disease.

"Triac" was found to be an effective cholesterol-lowering agent in the six subjects with raised serum cholesterol levels. However, despite an increase in dosage after six weeks to overcome the drug refractoriness suggested by Mackay *et alii* (1957), in two subjects pretreatment cholesterol levels were restored at the end of nine weeks. This suggests that the drug may be of small value as a long-term cholesterol-lowering agent.

It is uncertain whether the effects of "Triac" were related to the death of the subject who developed myocardial infarction during the trial.

### Summary.

The effect was studied of triiodothyroacetate ("Triac") on the fasting serum cholesterol levels of ten overweight business executives.

Six subjects had pretreatment levels considered to be within the hypercholesterolaemic range.

"Triac" produced a fall in the cholesterol levels of these six subjects. In two of them the pretreatment levels were restored by the end of the nine weeks' trial.

### Acknowledgements.

We should like to thank Dr. Ian Mackay and Dr. Alan Goble for assistance. Glaxo Laboratories (Melbourne), Proprietary, Limited, provided the "Triac". We are greatly indebted to the management of General Motors-Holdens, Limited, for making this trial possible. Special thanks are due to Mr. E. McFarlane, B.Sc., who undertook the biochemical work.

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### Reviews.

**Epileptic Seizures: A Correlative Study of Historical, Diagnostic, Therapeutic, Educational and Employment Aspects of Epilepsy.** Edited by John R. Green, M.D., and Harry F. Steelman, M.D.: 1956. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson, Limited. 9 1/2" x 6", pp. 177, with illustrations and tables. Price: 55s.

"EPILEPTIC SEIZURES", edited by J. R. Green and H. F. Steelman, is, as Wilder Penfield adequately describes it in his epilogue, a searching inquiry into the problems of epilepsy. This symposium is based on a series of papers delivered to a joint meeting of neurologists, electroencephalographers and a College of General Practitioners. The contributors include well-known leaders in the fields of epilepsy and electroencephalography—to name a few, Wilder Penfield, Robert Aird and Harry Steelman. Educationalists and social workers of Arizona also add important contributions.

The editor states that this symposium has been planned along practical lines for the general practitioner, the physician, the pediatrician, the medical student, the educator, the employer and the parent. The programme has certainly been followed, and the book in our opinion could be profitably read by these groups. To comply with this approach to the lay person as well as to the specialist and general practitioner there has been an over-simplification of much of the material presented.

Penfield presents a concise introduction to the clinical classification and diagnosis, in which he reproduces his well-known classification of epilepsy or cerebral seizures, namely: (i) focal cerebral seizures, (ii) centrencephalic seizures and (iii) cerebral seizures unlocalized. The importance of age of onset is stressed.

Aird draws attention to the problem that often faces the neurophysician and psychiatrist—that of the differential diagnosis of fugue states, schizoid reactions and temporal lobe dysrhythmia.

One of the most interesting contributions in this symposium is that of Rose, in which the discussion is centred on the problem of psychomotor or temporal lobe epilepsy and the precipitating role of emotions in convulsive

disorders. The problem of the brain-injured child with epilepsy is briefly dealt with, and the author of this paper stresses the importance of this particular problem with clarity and understanding.

The social aspects of epilepsy and the education of the epileptic are discussed in the final sections of the book. They can be read and reread with profit.

**The Year Book of Pediatrics (1956-1957 Series).** Edited by Sydney S. Gellis, M.D.; 1956. Chicago: The Year Book Publishers, Incorporated. 7 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ ", pp. 480, with illustrations. Price: \$6.50.

THE "Year Book of Pediatrics" is always of interest and value to those who have the care of children. The ground covered in the 1956-1957 Year Book is divided into the same sections as in the previous volume, and the presentation is similar. Attention may profitably be drawn to several points stressed by the editor, Dr. Sydney S. Gellis, in his introduction. Instead of considering the gains made in the field of pediatrics in the past year, he lists some of the more serious losses. Referring to retrolental fibroplasia and its connexion with the administration of oxygen to premature infants, he points out that the incidence can hardly be reduced lower than it is now, since some infants will have to have oxygen in order to survive. This fact should cause all practitioners to review the problem of the increasing incidence of iatrogenic diseases, and to be cautious in accepting new modes of treatment and new drugs; they should not allow themselves to be stampeded by public pressure. Gellis also draws attention to the increase in antibiotic-resistant staphylococci—"a price is being paid for the benefits which have accrued from the use of antibiotics". Care must be exercised to employ antibiotics only on clear-cut indications. Gellis finally refers to the potential hazards in the use of X rays, both diagnostically and therapeutically. His final paragraph is worthy of quotation:

Iatrogenic conditions have always been with us; however, the availability of more powerful weapons with which to combat disease and the wider use of drugs increase tremendously the risk of man-made disease. As physicians, it is our responsibility to be constantly aware of the potential dangers inherent in our therapeutic and diagnostic attempts.

**Psychosomatic Aspects of Surgery.** Edited by Alfred J. Cantor, M.D., and Arthur N. Foxe, M.D.; The Proceedings of the First Annual Meeting of the Academy of Psychosomatic Medicine, held in New York City, October, 1954; 1956. New York and London: Grune and Stratton. 8 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ ", pp. 232. Price: \$6.50.

THIS book contains a number of chapters each devoted to a different surgical field and the psychosomatic aspects of it. The approach discussed is that which people in this country would normally make to their patients and not think of it at all apart. Comfort and explanation, a helping hand and patience are integral parts of medicine, and one has always noted good surgeons as being also good psychologists.

**Anatomical Techniques.** By D. H. Tompsett, B.Sc., Ph.D., with a foreword by Sir Cecil Wakeley, Bt., K.B.E., C.B., LL.D., F.R.C.S., and an Historical Introduction by Miss J. Dobson, B.A., M.Sc.; 1956. Edinburgh and London: E. and S. Livingstone, Limited. Price: 35s.

THE author's post of prosector at the Royal College of Surgeons, where he has charge of preparations for the famous Hunterian Museum, is alone a guarantee of maximum competence in this field. In his book he covers practically every important phase of the work of a *préparateur* in human anatomy—embalming, injection, dissection, casting, staining when necessary, methods of display and even illustration. Each section is clearly and simply written and adequately illustrated. The work is far from encyclopedic, since the author restricts himself to methods which, apparently, he has found most adequate for his purpose. Those who have been through the museum at the Royal College of Surgeons will agree that in Tompsett's hands these techniques are highly satisfactory. The account is up to date in including a description of "Perspex" containers, the use of resins and "Latex" for injection, and resin embedding. One omission is notable—there is no mention of the Spalteholz method of clearing whole specimens or thick sections after injection. This is a pity, since such exhibits can be both elegant and instructive. The book is well got up and includes an interesting historical essay by Jessie Dobson and a friendly foreword by Sir Cecil Wakeley. This is the best work of its size

that has been produced for many years. It can be recommended with confidence to anyone charged with the care of a museum, and not solely in human anatomy, since the methods used are equally applicable to most other vertebrates at least.

**Textbook of Physiology and Biochemistry.** By George H. Bell, B.Sc., M.D. (Glasgow), F.R.F.P.S.G., F.R.S.E., J. Norman Davidson, M.D., D.Sc. (Edin.), F.R.F.P.S.G., F.R.I.C., F.R.S.E., and Harold Scarborough, M.B., Ph.D. (Edin.), F.R.C.P.E., M.R.C.P., with a foreword by Robert C. Garry, M.B., D.Sc. (Glasgow), F.R.F.P.S.G., F.R.S.E.; Third Edition; 1956. Edinburgh and London: E. and S. Livingstone, Limited. 9 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ ", pp. 1080, with many illustrations. Price: 60s.

DURING the last twenty-five years an immense amount of physiological data has been gathered as the result of the great drive by scientific investigators in many countries of the world. Most text-books of physiology have as a consequence increased in size during this time until they are now used by students mainly as reference books. Without considerable guidance from their teachers the students cannot be expected to understand these texts, which often deal with complex experimental techniques, and, unfortunately, with the ever-increasing number of students, the guidance that they receive has varied inversely with the mass of data they are expected to learn.

There is, therefore, a need for a well-written introduction to physiology and biochemistry which the ordinary student can cope with during the short time he has before embarking on clinical medicine. This text-book is written mainly for such a student. The substance is presented simply and lucidly, the diagrams and tables are numerous and clearly produced, and sufficient references are given at the end of each chapter to enable the reader to delve a little more deeply if he so desires. This, the third edition, is about 70 pages larger than the second and 150 pages larger than the first. It would be a pity if this growth continued in future editions.

This book can be well recommended to all medical students, and also to those graduates who endeavour to keep abreast with the principles of physiology and biochemistry underlying the problems which they encounter in clinical medicine.

**Fluid Balance Handbook for Practitioners.** By William D. Snively, Jr., M.D., and Michael J. Sweeney, M.D., with illustrations by Kathleen Calhoun; 1956. Oxford: Blackwell Scientific Publications. 9 $\frac{1}{2}$ " x 6 $\frac{1}{4}$ ", pp. 347, with illustrations and tables. Price: 51s.

THERE are few fields in which general practitioners are so closely involved and yet so ill equipped as in the management of the clinical problems of fluid, electrolyte and acid-base imbalance. This is readily understandable, as the art—or its practical application—is a new one, developed since most of them left the academic laboratories and wards. To most of them monographs, review articles and lectures are a confusion and embarrassment. It is to this group that the present book is directed, and the authors lose no opportunity of presenting their views in the most elementary terms. This is achieved by simplicity of expression and ideas, by the frequent use of similes, parables, mnemonics and diagrams, and by the use of large type, short chapters and concise summaries.

The subject matter is orthodox, the approach intensely practical. The type and nature of the disturbances are set out first, and then general principles of diagnosis and treatment. The quantitative estimation of deficits is discussed, and the types, constitution, dosage and administration rates of replacement solutions are set out with great detail. In fact, the quantitative aspects are given with greater precision than in many of the more sophisticated treatises.

Of the greatest value are the case histories with the discussions of management and the exercise cases at which the reader can have a go. There is a full bibliography. The book can be confidently recommended to those who wish to start at the beginning.

**Diagnostic Procedures for Virus and Rickettsial Diseases.** Second Edition; 1956. New York City: American Public Health Association. 9" x 6 $\frac{1}{4}$ ", pp. 593, with illustrations and tables.

OVER the last ten years an increasing number of laboratory procedures concerned with viruses and rickettsiae have been undertaken by clinical pathology laboratories. The air of complicated mystery that formerly surrounded the

manipulation of these ultra-microscopic disease agents, and made them the preserve of the chosen few, has given place in many aspects to the standard diagnostic procedure that can be undertaken by the well-trained technician working under the supervision of a clinical pathologist.

The second edition of "Diagnostic Procedures for Virus and Rickettsial Diseases", published by the American Public Health Association and edited by Thomas Francis, junior, is timely in its appearance. The different chapters are the work of authors who are acknowledged authorities actively engaged in the diagnostic procedures about which they have written. The techniques described in the various chapters may not be the only ones available, but they are techniques that are being used as a routine every day in a number of virological laboratories throughout the world. The clinical pathologist setting up a diagnostic service can in this book find sound technical procedures described in detail.

One word of criticism of the text is offered. In the chapter on influenza by Keith E. Jensen, the use of ten day old chick embryos inoculated amniotically for the isolation of influenza virus from throat washings is recommended. Beveridge and Burnet, in Number 256 of the Special Report Series of the Medical Research Council of the Privy Council published in 1946, showed that thirteen to fourteen day old embryos were greatly superior to ten or eleven day old embryos for the isolation of influenza virus. Beveridge and Burnet's findings in this connexion have recently been confirmed, and we have no doubt that older embryos are superior to the ten day embryos recommended by Jensen and other American workers in this field.

The quality of the paper, the binding and illustrations of this book are excellent. The printing is clear and sharp; but the use of eight on nine point type for some of the text is a disadvantage.

**A Text Book of Pathology.** By E. T. Bell; Eighth Edition; 1956. Philadelphia: Lea and Febiger. Sydney: Angus and Robertson, Limited. 9½" x 6", pp. 1028, with 545 illustrations and five colour plates. Price: £7 19s. 6d.

This eighth edition of an American text-book for medical students follows the now orthodox pattern of chapters on general pathology followed by others on systemic pathology. The general chapters include detailed discussion of important subjects such as tuberculosis, virus diseases and tumours, which are again dealt with only briefly under the systems concerned. This would make for a better general understanding of the principles underlying disease were it not for a tendency to divide and classify the material in encyclopaedic fashion, with consequent loss of readability. The style is brief and dogmatic, and the opinions are sound rather than fanciful; the material is largely culled from the author's own experiences, and the incidence figures and measurements quoted provide helpful information. The useful American practice of including frequent reference lists has been followed. These cover British and Continental authors as well as American and are reasonably up to date. Omissions there are, to be sure, and it is surprising to find no section on cholangiolitic hepatitis; it is also a surprise to read in reference to pulmonary alveoli (page 562), "It is agreed there is no continuous epithelial lining", and in reference to renal glomeruli (page 731), "Normal capillaries do not allow the molecules of serum protein to pass through". It is doubtful whether this text-book should displace those recommended at present in Australian undergraduate courses; but as a quick reference book equipped with a good index, it provides concise and reasonably accurate summaries of current thought with ready access to suitable literature. It should be a useful addition to libraries used by the specialist or general practitioner; its purchase may well be justified for those sitting for higher degrees who wish to revise their pathology quickly but thoroughly, and who intend to keep the book later as a useful reference.

## Notes on Books, Current Journals and New Appliances.

### Tubercle.

The journal of the British Tuberculosis Association, *Tubercle*, which is now in its thirty-seventh volume, has taken a commendable step forward. Since the beginning of 1956, it has been appearing two-monthly in an enlarged size with improved format. In addition to tuberculosis, the journal deals with respiratory disease in general and related

infections—for example, leprosy; laboratory as well as clinical and epidemiological aspects are included. Dr. J. R. Bignall, of the Institute of Diseases of the Chest, Brompton Hospital, London, has recently been appointed editor. The December number of *Tubercle* contains original articles on tuberculin insensitivity in pulmonary tuberculosis, the pathological and bacteriological examination of resected lung specimens, clinical trials of chemotherapy in African patients, the vole bacillus and mass radiography surveys.

**Physics in Medicine and Biology.** The journal of the Hospital Physicists' Association. Published in association with the "Philosophical Magazine". Price: £1 (sterling) per part. Annual subscription: £3 10s. (sterling). Printed and published by Taylor and Francis, Ltd., Fleet Street, London, E.C.4.

In July, 1956, came the first edition of this journal. Justification for publishing a new journal, according to the Editorial Board, lay in the increasing influence of the physical sciences on biology and medicine. The policy of the journal will be: (a) to report the studies of the physical properties and constitution of living matter at all levels of organization; (b) to report the application of physics and the methods of physics to the elucidation of problems in medicine, biology and physiology; and (c) to abstract papers of interest from a wide range of scientific journals.

This journal will no doubt be of great value to scientific departments in universities, and also medical laboratories.

## Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"X-Ray Reports: Their Importance in a Diagnostic Department: A Manual for Radiographers and Clerks", by G. Lieba Buckley, M.A. (Cantab.), M.B., B.S. (London), D.M.R.E. (Camb.); 1957. London: H K Lewis and Company, Limited. 8½" x 5½", pp. 79, with four illustrations. Price: 7s. 6d.

The title is self-explanatory.

"An Introduction to Therapeutics for Chiropractors", by Peter J. Read, F.Ch.S.; 1957. London: Baillière, Tindall and Cox. 8½" x 5½", pp. 273, with 14 illustrations. Price: 25s.

A text-book for students and practitioners of chiroprody.

"Outline of Fractures: Including Joint Injuries", by John Crawford Adams, M.D. (London), F.R.C.S. (England); 1957. Edinburgh and London: E. and S. Livingstone, Limited. 8½" x 5½", pp. 256, with 218 illustrations. Price: 27s. 6d.

Intended primarily for the medical student, the general practitioner and the physiotherapist.

"The Essentials of Paediatrics for Nurses", by I. Kessel, M.B., B.Ch., M.R.C.P. (London), M.R.C.P. (Edinburgh), D.C.H. (England); 1957. Edinburgh and London: E. and S. Livingstone, Limited. 8½" x 5½", pp. 226, with 88 illustrations and five colour plates. Price: 21s.

Stress is laid on basic principles.

"Fundamentals of Clinical Fluoroscopy: With Essentials of Roentgen Interpretation", by Charles B. Storch, M.D.; Second Revised Edition, 1957. New York: Grune and Stratton, Incorporated. 10" x 7", pp. 320, with 318 illustrations. Price: \$8.75.

The first edition appeared in 1950.

"Schizophrenia, 1677: A Psychiatric Study of an Illustrated Autobiographical Record of Demoniacal Possession", by Ida Macalpine, M.D., and Richard A. Hunter, M.D., M.R.C.P., D.P.M.; 1956. London: William Dawson and Sons, Limited. 9½" x 7½", pp. 208, with 13 illustrations. Price: £6 10s.

Based on two self-descriptions of severely disturbed subjects who are regarded as having suffered from schizophrenia.

"The Child and the Family: First Relationships", by D. W. Winnicott, edited by Janet Hardenberg, M.B.; 1957. London: Tavistock Publications, Limited. 8½" x 5½", pp. 158. Price: 12s. 6d.

Intended primarily for parents of young children, but also for all who are professionally concerned with the care of children.



## The Medical Journal of Australia

SATURDAY, APRIL 27, 1957.

*All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.*

*References to articles and books should be carefully checked. In a reference the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of the article. The abbreviations used for the titles of journals are those adopted by the Quarterly Cumulative Index Medicus. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.*

*Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.*

### ATARAXIA.

Wisdom consists in rising superior both to madness and to commonsense, and in lending oneself to the universal delusion without becoming its dupe.—AMIEL.

THE title, a transliteration, is the Greek word *Ataraxia*, which has a broad meaning, and which is not easy to translate into one English word. It means calmness or peace of mind; freedom from confusion or a state of being not easily distracted. Xenophon used the word of his soldiers when he admired their calm, uninterrupted and stoical behaviour in battle. Its most recent descendant and translation is a new word "ataraxie", which is now being applied to a group of drugs. It is hoped that the effect of these drugs will be to produce an image of one of Xenophon's soldiers. Ataraxies are the ultimate point of discussion in this annotation; but let us, in reaching it, discover some previous anodynes of man's choosing. It would be well to consider them in relation to any modern problem.

When we think of *arapaia*, perhaps we should begin with an idea of very early man. There may well have been a time in our prehistoric past when man, living alone,

had merely a feeling of hunger to chasten him: his only pleasure repletion. However we may think of our prototype living an uninhibited life on a warm African plain, we can have no certainty of it. Why such a creature became communal we do not know, but we can be certain that communal living has, from the instant that it first occurred, been a curb on human behaviour. It made man conform; and as the wise man, like the moon, turns his bright face to the earth, so man's outward self differs more and more from the inner real self. The more civilized we are, the less freedom we have. Although African primitive societies have been shown to own many members with hysteria, it is true that in simple societies man is living much closer to nature and in fact closer to childhood. The inner self of emotion and instinct is given free play.

We cannot tell when man first became interested in an anodyne; perhaps it was when he warmed himself in front of a fire, but most early and primitive societies knew or know alcohol. They knew alcohol particularly when the pressure of life upon them was great; for drinking strong wine cures hunger. Other tribes had other drugs. The aborigines have one. Natives of Peru and Bolivia chew coca leaves until they are perpetually stupefied. They say this makes their life in a steamy jungle bearable. Porters, who carry tremendous loads from steamy jungle to Andean snow to jungle, will go for a week without food, but will chew coca leaves the whole time. They eventually become degenerates, and this is perhaps why a whole continent, whose rulers were intelligent and intellectual, succumbed to a few boorish soldiers.

We would say that the heavy pressure of modern living, with its noise and bustle, makes great demands on our equability and calmness. Few people are any longer able to glide through life. Total war is of recent occurrence. Most wars and causes in the past were not forced upon people, but were there to be taken up if desired. It is, of course, true that there were isolated phenomena like the dancing mania, the Crusades and the Spanish Inquisition which compelled people to excessive behaviour. Now that most of us are forced into the violence of life, whether we wish it or not, it is not surprising that many of us cannot stand the pace. If only we were trained as a race to hardship, then perhaps our nervous disability would be less. It seemed so for the Spartans; and for the North African Moslem tribes it seems so. Such tribes—for example, those of Northern Nigeria—have a strict faith and upbringing; and they tolerate well the detribalization and demoralizing influence of the West. This discursive approach is intended to be pointed in three ways: firstly to the growing hunger of man for comfort; secondly to drugs which have been used to satisfy man; and thirdly to wondering what attitude we should adopt towards the problem.

The two greatest anodynes in the Western World are tobacco and alcohol; and as most countries derive a significant proportion of their national income from taxing them, they are likely to remain the greatest anodynes. The amounts raised in tax are huge—for example, in England £900,000,000 (sterling), more than enough to pay for all the National Health Service, in Australia nearly £100,000,000 (Australian). It is interesting to note that these are two toxic drugs of addiction which are not

restricted in any way. The amounts consumed yearly grow. Just over one hundred years ago bromides began to replace alcohol as ataraxic, anodyne and sedative in medical practice. Bromides came into constant use, with the amounts increasing year by year; and as man's agitation about life grew, so also grew the number of prescriptions for bromide. The number had grown to about 5,000,000 in England by 1930. This fact was brought to light in 1936 by R. F. Barbour, F. Pilkington and W. Sargent<sup>1</sup> in a paper which touched off an explosion. The explosion not only rocked the use of bromides but eventually smashed it, and let in the barbiturates. These three doctors reported a series of patients with bromide poisoning. The cases all occurred within a few months and the patients included three doctors, who were completely ignorant of any possibility or probability of poisoning themselves with bromide. It is perhaps worth recalling a patient of the authors who typifies not only bromism, but also the pitfall for the layman. A spinster school teacher some sixty years of age took occasional tablets of "Medinal" for insomnia, but with changes in the dangerous drugs Acts her supply became cut off. In May, 1936, she started to take "Sedobrol" containing 17 grains of sodium bromide per cube. The cubes were pleasant to suck, and she would sometimes take them during the day. By June 19 she was no longer well, having become restless and confused. On July 10, 1936, she was admitted to hospital extremely restless and confused. She had no previous history of mental disease. A diagnosis of bromism was made, salt was administered, and she recovered completely. Sargent recalled this period of his life during his address to the Royal Medico-Psychological Association on February 9, 1956.<sup>2</sup> During his first psychiatric "locum" job, he remembered, he saw rows of patients sitting silently with drooping heads and salivating mouths. The heavily drugged patients were easy to discover, because when one patted their heads the relaxed muscles allowed the chin to sink onto the chest. These peaceful patients were on mixed bromides. The subject of bromism received quite an airing, and was the subject of comment in this journal on January 6, 1936, and again on December 16, 1939. In 1939 Gundry<sup>3</sup> reviewed some cases of bromism and noted that one-half occurred as a result of physicians' prescriptions for alcoholic, psychoneurotic or psychotic patients—just the people who habitually disregard instructions, and take too much of any drug prescribed for them.

By 1939 bromides were well on the way out of clinical practice. Barbiturates, which psychiatrists had said twenty years before were very dangerous drugs and required careful usage, began to replace bromide, and within a few years were themselves manufactured by the ton. But with the increasing use of barbiturates, and the benefits they brought, came a new problem—the problem of misuse. Papers and reviews appeared giving warning of the dangers of barbiturate abuse. A. L. Tatum<sup>4</sup> in 1939 pointed out that the etiology of barbiturate poisoning was almost invariably self-medication. This journal on October 26, 1940, gave a strong warning and commented that the usage of barbiturates was always accompanied by

danger, because of the ease with which they induced sleep, or preserved peace of mind. Barbiturates are easy to take, beneficent and dangerous. By 1951 matters were very much worse, and J. D. Maas,<sup>5</sup> commenting on the sale of "red devils, yellow jackets, and blue boys" upon school and college campuses in America, was lighting up a barbiturate problem—a problem created partly by a public demand and partly by our own inanition.

Since then have come the tranquillizers or mood elevators. Some like mephenesin are merely depressants, but others, like the two major ones, chlorpromazine and reserpine, seem to elevate mood and clear confusion in a selective way, without otherwise affecting people. These drugs have caught the popular fancy much more than ever the bromides or the barbiturates did. They are regarded, too, as acceptable by the public. An appreciation of their present status, seen in comments by the profession, is necessary before a judgement can be made upon this ever-present problem. Ramsay Webb<sup>6</sup> wrote in this journal in 1955 that, although convinced of the action of chlorpromazine as a sedative for disturbed psychotics, and although convinced of the value of chlorpromazine in controlling hypoglycemic restlessness in an insulin unit, he thought chlorpromazine was still *sub judice*, but was well worth further investigation. D. R. Morgan,<sup>7</sup> one year later, in discussing ataraxics and tranquillizers, wrote that the relationship between them was stimulating and intriguing, but their correlation into a coherent unifying concept was beyond us with our present knowledge. He went on to point out that we now have drugs which will modify or remove many of the symptoms of mental illness, but that this does not mean the cure of the disease. Mental disease is ultimately the development of faulty behaviour patterns of reaction to environmental stress; and these new drugs, which have been described, help to establish new patterns. With psychotherapy the patterns become stable and healthy; and psychotherapy is still the basic means of treating mental illness. I. Listwan<sup>8</sup> comments that chlorpromazine is helpful in the psychiatric interview. T. A. Munro<sup>9</sup> has written that tranquillizers are being prescribed not only for psychiatric disorders, but also for the relief of the ordinary anxieties of daily life, although mode and site of action and toxic effects are to a great extent unknown. F. J. Braceland and M. B. Jackson<sup>10</sup> in their summary point out that the ataraxics may mark the beginning of a new era of psychic chemotherapy. In all the literature on chlorpromazine and reserpine, it is hard to find one report which questions the value of these compounds in psychiatry—and this in spite of various side effects. The fact that side effects occur points to the need for careful selection and follow-up of patients; and the question remains whether long-term maintenance therapy may be carried out with impunity. Certainly in view of the side effects (agranulocytosis and leucopenia, reported by J. Adams *et alii*,<sup>11</sup> and Parkinsonism, dermatitis, jaundice, convulsions and other complications reported by

<sup>1</sup> *Am. J. M. Sc.*, August, 1951.

<sup>2</sup> *M. J. AUSTRALIA*, May 21, 1955.

<sup>3</sup> *M. J. AUSTRALIA*, June 23, 1956.

<sup>4</sup> *M. J. AUSTRALIA*, January 26, 1957.

<sup>5</sup> *Practitioner*, October, 1956.

<sup>6</sup> *Medical Progress*, 1956.

<sup>7</sup> *Brit. M. J.*, May 12, 1956.

<sup>8</sup> *Brit. M. J.*, November 14, 1936.

<sup>9</sup> *Brit. M. J.*, April 28, 1956.

<sup>10</sup> *J.A.M.A.*, August 5, 1939.

<sup>11</sup> *Physiol. Rev.*, October, 1939.

I. M. Cohen<sup>1</sup>), to a total of 12% of all patients taking chlorpromazine, great care is needed.

It can be seen from this brief survey that the indications and long-term effects of these drugs are by no means clear. However, the quoted reports seem to limit the drugs' known usefulness to psychotic patients under institutional or clinical care. Sir Henry Dale<sup>2</sup> said last year that the ultimate solution of any problem, in the interests of all humanity, must depend upon the degree to which it can be lifted into the clear light of scientific discussion, out of the range of irrelevant beliefs and furtive superstitions, beyond the suspicion of any racial rivalry or patronage. Any permanent solution must come from the spread of enlightenment, and thus from a patient and persistent effort of education. Shakespeare makes Henry V exclaim: "There is some soul of goodness in things evil." We do not in these days have to look far to find even terrible examples of the alternative possibility—that evil may come from the misuse of what ought to be, and still is, universally good.

We would perhaps all agree with Sargant that we should not be persuaded by the modern advertising of the drug manufacturer into using on a mass basis any new drug until it has been shown to be better than the older ones in a selected group; and that we should be particularly careful with any drug which has not been properly tried in clinical practice. As medicine expands and as drugs pour on to the market, we must be more careful. As living becomes more complex, and as man becomes Gilbertian in running away from normal living, let us not relive the past by giving tranquillizers to all and sundry where we once gave bromides or barbiturates.

## Current Comment.

### CANCER OF THE TONGUE.

HIGH relative incidence and severe malignancy combine to make cancer of the tongue a serious surgical problem. The tongue is the most frequently involved site of cancer arising in the oral cavity, and more deaths occur each year from tumours at this site than from cancer in any other part of the head and neck, including thyroid neoplasms. Moreover, of tumours in the head and neck region, the incidence of lingual cancer is second only to cancer of the lip (excluding skin cancer). F. Berridge, junior, and A. James<sup>3</sup> have discussed the experience gleaned from 102 consecutive cases of primary tongue cancer in patients admitted to the Head and Neck Service of the Ohio State University Hospital from 1948 to 1955 inclusive. Seventy-four of the 102 patients were males. The average age of the patients was 62.4 years, the oldest being ninety-three years and the youngest thirty-five years. The authors found no appreciable age difference according to sex. The site of the lingual cancer was posterior to the circumvallate papillae in 47 patients; in the remainder it was in front of this line. Of the latter group, 45 persons had the cancer on a lateral border of the middle third of the tongue, seven on the anterior third, and only three patients on the dorsum of the middle third. Lesions arising at the tip of the tongue averaged 2.1 centimetres in size, and those located on the dorsum presented a mean measurement of 2.8 centimetres; 3.6 centimetres was the mean size for the lesions of the base. The average period

of delay from the onset of symptoms to the institution of treatment was four and a half months. No significant difference was noted in the duration of delay for the cancer of the anterior two-thirds of the tongue, as compared with that of the posterior third, but the symptoms were strikingly different. Symptoms referable to the anterior part of the tongue were awareness of an oral mass and local tenderness or burning pain. Lesions of the base of the tongue often caused these complaints *plus* earache, difficulty in swallowing and difficulty in speaking. Of the patients with cancer of the base of the tongue, 20% had symptoms referable to metastatic involvement as evidenced by complaints of cervical pain or a palpable neck mass. By the time of admission of patients to hospital, cervical node metastases were found in 40% of all untreated patients. Of patients with basal tongue lesions, 54% had cervical spread before treatment commenced. Bilateral cervical spread was equal between the lesions of the anterior two-thirds and the posterior third of the tongue. Only two patients had systemic metastases on admission to hospital, and these came from a primary squamous carcinoma of the base of the tongue in each case. Only 12% of the patients with lingual cancer had a positive syphilitic blood reaction on admission to hospital. The mean age of this 12% was 60.5 years, and there was only one female in this group. In this survey, all syphilitic patients had a squamous cell type of carcinoma, and with a single exception the lesion was located anterior to the line of the circumvallate papillae. Additional probable predisposing conditions were frequently encountered, but difficult to evaluate. Poor oral hygiene or dental sepsis was the most commonly associated finding. Others were the use of tobacco, leucoplakia and alcoholism. Of the cancers on the anterior two-thirds of the tongue 98% were squamous cell carcinoma, but at the base of the tongue only 79% were of this category. The other malignant tumours found on the posterior third of the tongue included three instances of transitional cell carcinoma, two of adenocarcinoma and one each of lymphosarcoma, lymphepithelioma and reticulum cell carcinoma.

As far as the treatment of lingual carcinoma is concerned, Berridge and James state that the size, location and type of primary neoplasm, as well as the extent of metastatic spread, dictate the therapeutic approach. The treatment of this lesion as judged from their results is primarily a surgical problem. They treat a small localized carcinoma of the anterior third of the tongue by removing the apex of the tongue obliquely with a wide margin of normal tissue around the tumour. For lesions of the lateral margin of the tongue in the middle third, hemiglossectomy is performed. This may have to be extensive, but an effort is made to preserve the hypoglossal nerve trunk where possible, so as to avoid a unilaterally flaccid tongue. Should the lesion extend to the floor of the mouth, this is included with the hemiglossectomy. Malignant tumours of the dorsum of the tongue are elliptically excised, the long axis of the ellipse being directed either transversely or sagittally, according to the size and configuration of the lesion. Lesions of the posterior third of the base of the tongue can be removed in the same way through the mouth. However, should the lesions be extensive in this region, they are best approached laterally because of the limited exposure through the mouth. If necessary, the entire base of the tongue can be removed and the middle third of the tongue sutured to the base of the epiglottis. This lateral pharyngotomy is combined with a radical neck dissection. If patients have the lingual carcinoma spreading onto the epiglottis or larynx, total laryngectomy is combined with a radical neck dissection and excision of the primary lesion all in one stage.

So far as surgical management of involved cervical nodes is concerned, it is the policy of Berridge and James to await gross evidence of metastatic spread to the cervical lymph nodes before widening the scope of the local resection of the tongue. However, once palpable cervical nodes do occur, then they perform radical neck dissection including removal of the sterno-mastoid and omohyoid muscles, the internal jugular vein and the sub-

<sup>1</sup> *Am. J. Psychiat.*, May, 1956.

<sup>2</sup> *Brit. M. J.*, May 19, 1956.

<sup>3</sup> *Surg., Gynec. & Obst.*, November, 1956.



maxillary salivary gland in block with the accompanying lymphatic channels from the level of the clavicle to the mandible. They do not hesitate to sacrifice neoplastically infiltrated structures such as the phrenic, vagus and hypoglossal nerves, the external carotid artery or the digastric and mylohyoid muscles. They consider that only the common and internal carotid arteries are vital, because of the high unpredictable mortality associated with interruption of these vessels. Whenever unilateral cervical node metastasis occurs in association with an untreated or uncontrolled primary lesion of the tongue, they perform a combined lingual and cervical block operation. This consists of extending a standard radical neck dissection through the floor of the mouth or lateral pharyngeal wall beneath the uninvolved mandible and accomplishing a generous partial glossectomy. If necessary, the uninvolved mandible can be transected to aid the approach to the mouth. This is reapproximated by wire upon completion of the oral resection. Should the gums be affected by spread from the primary lesion, hemimandibulectomy is performed. Post-operatively, a temporary tracheostomy is performed as a routine immediately after a "commando" procedure or a radical neck dissection combined with pharyngotomy. Berridge and James do not hesitate to perform an elective tracheostomy at any time during the post-operative period when the adequacy of the airway is doubtful, and on no occasion have they ever regretted this principle. If the oral airway is clear, they close the tracheostomy tube with a small cork on the second or third day after operation. The tube is left in for a few more hours and then removed. Fluid, electrolyte and caloric requirements are met by naso-gastric tube feedings with a polyethylene feeding tube. This feeding tube should be inserted prior to operation. Two litres of fluid and 1200 Calories are provided by means of homogenized milk alone. Amounts of 360 cubic centimetres are instilled into the feeding tube followed by 40 cubic centimetres of water at three-hourly intervals during the day. A liquid vitamin preparation rich in vitamins B and C is added to the daily requirement of milk. The feeding tube is not removed until the suture line has healed well, which is usually about the tenth post-operative day. Berridge and James try to get their patients up early, actually on the day after operation. They prefer perambulation to sitting on about the tenth post-operative day. Comfortable and therapeutic oral hygiene is attained by using a 1.5% solution of hydrogen peroxide followed by a saline mouth rinse four times daily. Antibiotic therapy has greatly decreased the morbidity and mortality due to infection following major head and neck operations.

As far as radiation therapy is concerned, the accepted indications in lingual cancer are: (i) massive involvement of the tongue or its contiguous structures, associated with bilateral cervical nodes; (ii) mid-line, middle-third, radiosensitive lesions with bilateral neck metastases; (iii) large neck masses which are adherent to the internal or carotid arteries and to other deeper structures; (iv) extension to the base of the skull with invasion of the periosteum; (v) lymphomata of the lingual tonsil or the base of the tongue; (vi) local recurrence in the deep structures of the neck following a radical neck dissection; (vii) evidence of distant metastatic spread; (viii) residual cancer tissue after radical surgical resection. Interstitial irradiation is preferred whenever possible; radioactive iridium with a half-life of seventy-four days is used. This is supplemented by externally applied deep X-ray irradiation.

In this series of 102 patients, all but four received surgical treatment, interstitial irradiation or a combination of both as therapy for lingual cancer. Of the remaining four patients, two were admitted to the hospital in a terminal condition, one patient was transferred to another hospital, and another patient refused therapy. During the eight years included in this report 37 partial glossectomies were performed as separate procedures; in an additional two instances, glossectomy was combined with radioactive implantation. A "commando" or radical neck dissection was employed on 34 occasions and was accompanied by simultaneous interstitial implantation of

radioactive elements in another seven instances. A radical neck dissection *en bloc* with excision of the lingual primary lesion was accomplished for 11 patients. The interstitial implantation of radioactive material as a separate surgical procedure was carried out on 23 occasions. Total laryngectomy was required for control of the tumour in three patients, and six hemimandibulectomies were performed as a preliminary procedure to subsequent irradiation therapy or because of tumour recurrence following a radical neck dissection. Surgical intervention caused three deaths in the treatment of the lingual carcinoma; consequently the over-all operative mortality was 2.5%.

As a result of their experience in this series, Berridge and James believe surgical treatment of lingual cancer to be most uniformly successful. Without palpable evidence of lymphatic metastases, the primary tongue tumour can be easily excised without much risk to life or inconvenience to the patient. Unfortunately they do not give follow-up figures in this article. The value of the study would be greatly enhanced if this could subsequently be done.

#### VETERINARY ASPECTS OF PUBLIC HEALTH.

Zoonoses, which are defined as diseases naturally transmissible between animals and man, have been the subject of consideration and report by a number of expert groups on veterinary public health, working under the auspices of the World Health Organization and allied bodies in recent years. A report<sup>1</sup> has now been received which contains the findings and recommendations of a group of experts which met in Geneva in June, 1955. In this it is pointed out that the control of zoonoses is a major activity in veterinary public health because these diseases are a source of much ill health and poverty, brought about by the acute or chronic infections they cause in human beings; in addition, they cause large economic losses to agriculture and trade. This control is the special concern of veterinary public health, which the report defines as the field of activity which protects and advances human well-being by utilizing the combined knowledge and resources of all those concerned with human and animal health and the interrelationship of these two aspects of health. Important activities in this field include the development and supervision of food hygiene practices, laboratory and research activities in such fields as diagnosis, preparation of biological products, zootechnics, microbiology, epidemiology and all aspects of comparative pathology and medicine (oncology, therapeutics, surgery, nutrition *et cetera*), and the education and training of professional and auxiliary workers in veterinary aspects of public health. The report states that the aim of establishing veterinary public health units in health administrations is to obtain the maximum contribution of veterinarians to human health. In many countries this involves a new step in public health organization, without appreciably affecting veterinary administrations in agricultural or other departments concerned principally with control of disease in livestock. The importance is stressed of keeping this distinction clearly in mind, as the advisory group which compiled the report does not recommend incorporation into health departments of veterinary services dealing with purely veterinary problems where these services have been long established and have been doing effective work in other governmental administrations.

In considering the control of zoonoses, the report states that in addition to the immediate control posed by certain zoonoses, one should not overlook the dynamic and changing pattern of microorganisms, their adaptation to new animal hosts, and their potential and actual transfer to

<sup>1</sup> "Advisory Group on Veterinary Public Health: Report", World Health Organization Technical Report Series No. 111, 1956. Geneva: World Health Organization. 94" x 64", pp. 26. Price: 1s. 9d.

human beings as pathogenic organisms. The emergence of new zoonoses, or the uncovering of unsuspected human-animal relationships in communicable diseases, is therefore to be expected. Examples of the latter during the past few years have been bird reservoirs of the arthropod-borne virus encephalitides, the wide prevalence of bovine and other animal leptospiroses in many countries, the appearance of bat rabies in the eastern hemisphere, and the determination of widespread mammalian reservoirs of the group of viruses concerned in psittacosis and *lymphogranuloma venereum*. The report recommends vigorous action to reduce, and if possible eradicate, the specific major zoonoses, while a constant watch is kept for the appearance of new zoonoses in an area. It is pointed out that the prevention and elimination of zoonoses in man depend in large part on the control of these diseases in animals. Experience has shown that these diseases, by their very nature, cannot be fought adequately by the separate endeavours of health and agricultural authorities. The best approach to achieve an effective attack on a specific zoonosis is by coordinating the efforts of public health, agricultural and other groups. Veterinary public health units in governmental services can assist greatly in this respect, and are particularly useful in campaigns directed against such diseases as rabies, brucellosis, bovine tuberculosis and hydatid disease.

The report goes on to examine what work can be done in combating the zoonoses at the national, provincial, district and rural levels, and considers in detail the important contributions which veterinarians can make to health services at all these levels. Dealing with the major zoonosis problems of importance in Europe, the report considers only bovine tuberculosis, brucellosis, rabies and hydatid disease. Bovine tuberculosis is stated to be still a serious menace in some parts of Europe; but it has been completely or nearly eradicated from the cattle of some European countries, while in others progress is being rapidly made towards that end. The most effective approach has been the detection of infected cattle by means of the tuberculin test and their removal from contact with healthy animals. Vaccination as a method of control is not recommended for general use. For effective control full cooperation is required, not only of all concerned in public health and agricultural activities, but also of the general public. Farmers must be influenced to clear bovine tuberculosis from their herds, and a public demand needs to be created for milk, milk products and meat derived from animals free from tuberculosis. Six practical recommendations are made which will assist governmental authorities in promoting a scheme for the eradication of bovine tuberculosis. Infection with *Brucella abortus* is stated to be still prevalent in most European countries, and this with *Brucella suis* infection appears to be increasing in incidence and to be spreading into hitherto non-infected areas. General measures for control of brucellosis are similar to those for control of bovine tuberculosis. Control and eradication of brucellosis are matters of urgency because of its serious effects both in man and in animals, but drastic measures may be demanded. The report reminds medical practitioners of the possibility of brucellosis in all cases of vague illness, particularly in farmers, slaughterhouse workers, dairy workers, and members of other occupational groups frequently exposed to the disease. No reference is required here to rabies, as it is of no practical concern in Australia. Effective control of hydatid disease has in general been achieved here, although it was once of major importance in Australian country districts. It is to be regretted that it has not been completely eradicated.

The report concludes with a section entitled "Education for Veterinary Public Health". It is pointed out that the demands of public health on the veterinary profession can be met only if the veterinarian has been suitably trained for work in this field. A well-informed veterinary profession is the keystone in a sound, well-balanced, effective public health programme, and a very important pace-maker in the policies to be adopted by animal husbandry and other livestock interests. The responsibility for the necessary enlightenment lies primarily with veterinary

teaching institutions, and the report sets out some suggestions on how the matter may be approached. At the same time, the responsibility and need for education of the medical profession along corresponding lines should not be overlooked.

#### ENZYME, VIRUS AND ANTIGEN.

PROFESSOR SIR MACFARLANE BURNET's latest publication, "Enzyme, Antigen and Virus", with the subtitle "A Study of Macromolecular Pattern in Action", is a fascinating assembly of recent knowledge in the field of protein synthesis, put together in the lucid and imaginative style which we have grown to anticipate from him.

In review, one is tempted simply to discuss the book's final chapter, entitled "The Scope of Biological Investigation", and to link it with Professor Burnet's presidential address, "Biology and Medicine", delivered at the meeting of the Australian and New Zealand Association for the Advancement of Science held in New Zealand in February of this year (see M. J. AUSTRALIA, March 30, 1957), for they are both concerned with the aims of the investigator and the widely different skills which are needed in the pursuit of a problem, the results, and their usefulness in the world or their contribution to the sum of human knowledge. As a medical man, Professor Burnet is conscious of the fact that medicine must be "an art, a science and an expression of human compassion", and the end of a search may be the beginning of its application to the welfare of humanity at large, whether by the control of poliomyelitis or by the improvement of pasturelands. On the other hand, he observes that the academically minded research worker "can take the most unpromising-looking organism and find in it a life-time's work". He enumerates the requirements for acceptable biological research: it should be new but coherently related to a field of inquiry; it should show internally consistent results; generalization upon it should bear on the immediate problem and, if of high quality, may lead to a new experimental approach. It is here that the chapter has great relevance to the main theme of the book, because in it we find assembled the evidence from various angles on protein synthesis brought together and woven into the pattern of the subtitle.

Enzymology, particularly in the field of adaptive enzymes, calls for a study of surface patterns, relationship to substrate, and the nature of inducing substances, as well as the consideration of genetic transmission of favourable characters for a particular environment. The immunologist is concerned with the nature of antigenic materials and the formation of macromolecules of  $\gamma$  globulin which they stimulate. Techniques of electrophoresis, fluorescent antibody and cellular identification are needed here, and genetic recombinations again invoke the concept of a template of ribonucleic acid. Virus workers become more and more indebted to biochemical techniques as they analyse virus nucleoprotein and find the ribonucleic acid moiety and ribonuclease to be of greater and greater significance in the study of virus protein and virus particle. So the monograph blends and interprets these three aspects for workers interested in protein synthesis, and suggests elaboration of one special technique which may be of service to another. This is, of course, part of Burnet's theory of communications and the search for a language that will function in the twilight zones where chemical description of molecular function and structure breaks down. We have heard Professor Burnet talk indulgently of "armchair research", but its efficiency as a path towards communication theory can hardly be denied. This essay is a brilliant piece of armchair research, and should be required reading for the present-day research worker in training in the biological sciences.

<sup>1</sup> "Enzyme Antigen and Virus: A Study of Macromolecular Pattern in Action", by F. Macfarlane Burnet, Kt., F.R.S., F.R.C.P.; 1956. Cambridge: University Press. 7½" x 5", pp. 201, with illustrations of figures. Price: 18s.



## Abstracts from Medical Literature.

### RADIOLOGY.

#### Acute Pancreatitis: A Preliminary Investigation of a New Radiodiagnostic Sign.

C. STUART (*J. Fac. Radiologists*, July, 1956) states that the use of plain radiography for the diagnosis of acute abdominal lesions is playing an increasing part in medicine. If the clinician can be provided with a diagnosis or a firm differential diagnosis by radiology at the onset of the illness, the treatment of certain acute abdominal lesions will start earlier. Many patients have been submitted to investigation of the upper and lower parts of the intestinal tract by opaque media. It is the author's opinion that this is an unnecessary procedure when one is dealing with a sick patient—it is difficult for the radiologist and distressing for the patient. In the normal plain film of the abdomen it is usual to demonstrate the whole outline of the colon by its gas and/or fecal content. The shadow of the transverse colon can invariably be traced across the mid-line. In two cases of "acute abdomen" in which the subject came to laparotomy, acute pancreatitis was found. Price in 1953 described at operation cellulitis spreading from the oedematous head of the pancreas between the layers of the transverse mesocolon to reach the mesocolic border of the colon just to the left of the hepatic flexure. This had resulted in a localized obstruction of a segment of the transverse colon, which appeared collapsed and devoid of gas content. In confirmation of these operative findings it was noted in the plain films of the abdomen in cases of acute pancreatitis that there was a central segment of transverse colon which could not be identified either by gas or by fecal content. Both the hepatic and splenic flexures of the colon showed a well-defined gas content, and these appeared to be sharply "cut off" from the central transverse colon segment. This absence of gas was a constant finding in both the erect and supine films. Gas in the stomach, which may be lying transversely, must not be confused with gas in the colon, and isolated loops of gas-distended small bowel in the centre of the abdomen may be difficult to differentiate from colon. It is important that in the radiological investigation of the "acute abdomen" a very careful survey of the films be made to exclude other lesions which may require immediate surgery. First, perforation of a peptic ulcer is one of the most common acute lesions of the abdomen. The diagnostic importance of demonstrating free gas beneath the diaphragm must be stressed. This is often best seen in the chest film taken with the patient in the erect position, and in the abdomen film taken with the patient in lateral decubitus, when it appears beneath the lateral wall of the abdomen. Secondly, mechanical small-bowel or large-bowel obstructive lesions must be considered. The films often reveal diagnostic features in these

conditions, which together with the clinical findings give some indication of the surgical procedure required. In the third group one has to consider a dynamic ileus and its differentiation from the mechanical type of obstruction. The appearance of the large bowel is of great help in these cases, and the history and clinical findings together with the radiographic features can often produce a firm diagnosis. The presence or absence of free fluid in the peritoneal cavity must be assessed and if possible an estimation of the amount stated. Finally, the chest film is of value in excluding obvious cardiac or pulmonary disease. When an acute abdominal lesion requiring early surgery has thus been excluded, the films are examined with a view to assessing changes in relation to acute pancreatitis. Of the many and varied radiodiagnostic signs which have been recorded it has been found that in the cases reviewed the central transverse colon "cut off" sign has been the most common and characteristic feature.

#### Hypercholesterolemic Xanthomata of the Tendons.

H. C. MARCH, P. D. GILBERT AND T. M. KATIN (*Am. J. Roentgenol.*, January, 1957) state that hypercholesterolemic xanthomata of the tendons are one manifestation of hypercholesterolemic xanthomatosis, a familial metabolic disturbance. The tumours are found on extensor surfaces, especially the hands, feet and Achilles tendons. In addition to the soft tissue masses which the radiologist may encounter, there may occur punched-out defects in association with these masses, presenting a gout-like or neurofibromatosis-like picture. The tendency to spare the articular margins of the joints and the bilateral involvement of the Achilles tendons would help distinguish it from gout radiologically. Details of three cases are presented from two families with this condition.

#### "Pantopaque" Pulmonary Embolism.

T. E. KEATS (*Radiology*, November, 1956) reports a case of pulmonary "Pantopaque" embolism secondary to myelography. He states that this is the fifth case to be reported of venous intravasation of "Pantopaque" after myelography, and the third instance of demonstration of the embolized oil within the lungs. The patient exhibited violent coughing at the time of embolization. Except for a febrile episode which lasted several days, she showed no complication from the embolism. Venous intravasation may occur either during the injection of the opaque medium or during its aspiration. The aspiration of blood during either of these procedures should indicate temporary postponement of the examination to prevent passage of the contrast material into the venous system.

#### Radiological Aspects of the Eisenmenger Complex.

C. L. EBNOTHER AND H. L. ABRAMS (*Am. J. Roentgenol.*, February, 1957) discuss the Eisenmenger complex—one of the less common congenital heart malformations which may cause cyanosis.

The definition of the Eisenmenger complex, as used in this paper, embodies both anatomical and physiological components: a large ventricular septal defect with aortic overriding of variable degree, increased pulmonary vascular resistance and consequent pulmonary hypertension, and a shunt of right ventricular blood into the aorta. Angiocardiography may be helpful in infants and children or in adults when the diagnosis is in doubt. The pattern may be quite typical. Slight to moderate enlargement of the right atrium and right ventricle is usually observed. The outlet of the right ventricle demonstrates no area of persistent narrowing either in the infundibular region or at the valve. Simultaneously with filling of the pulmonary artery, aortic opacification occurs. Usually, but not invariably, the aorta is less densely opacified than the pulmonary artery. The main pulmonary artery is always greatly dilated, as are its central branches. This dilatation extends into the mid-lung fields, but the vessels usually narrow significantly as they approach the periphery. Premature aortic opacification establishes the presence of functional or anatomical overriding, and thus excludes some of the other anomalies usually considered in the differential diagnosis of the Eisenmenger complex. It permits conclusive differentiation from primary pulmonary hypertension. Since both the ascending and the descending aorta are opacified, patent ductus arteriosus with reverse flow may be ruled out. The absence of early left atrial opacification excludes atrial septal defect with pulmonary hypertension. That valvular and infundibular pulmonary stenosis are absent can be stated with reasonable certainty if films are taken in both oblique projections, since the infundibulum and valve area are then well visualized. At present the most useful technique for evaluating the presence and degree of pulmonary hypertension is cardiac catheterization. The Eisenmenger complex must be differentiated from the following conditions associated with pulmonary hypertension: (a) Atrial septal defect. Radiologically, an atrial septal defect may resemble the Eisenmenger complex, although usually there is greater right ventricular enlargement with evidence of pulmonary plethora and prominent peripheral vessels. The absence of cyanosis and arterial oxygen unsaturation are important differential points. When marked pulmonary hypertension develops in the presence of an atrial septal defect, the cardiac contours may be very similar to those of the Eisenmenger complex. Rarely, the hypertension may be so marked as to cause a right-to-left shunt. (b) Ventricular septal defect. The classical *maladie de Roger* is unlikely to be confused with the Eisenmenger complex, since the heart is normal in size and configuration. A large ventricular septal defect, however, offers more of a radiological problem. There is usually biventricular enlargement with more obvious left ventricular prominence than in the Eisenmenger complex. Engorgement of the pulmonary vessels is marked and extends to the periphery. Evidence of right atrial enlargement is rare. The absence of cyanosis or of



significant arterial oxygen unsaturation is important. If the pulmonary artery and the right ventricular pressure increase greatly, a right-to-left shunt may develop, and then this anomaly is identical with the Eisenmenger complex. (c) Patent *ductus arteriosus*. The common variety of patent *ductus arteriosus* offers little difficulty in differential diagnosis on clinical grounds alone. In the presence of pulmonary hypertension, however, the distinction may be more difficult, because enlargement of the right ventricle and greater dilatation of the pulmonary artery then occur, and the typical murmur may be replaced by a systolic murmur alone. Under these circumstances, angiocardiology, cardiac catheterization and differential blood oxygen determinations from arteries of the upper and lower extremities may be required. (d) Primary pulmonary hypertension. The X-ray appearance of the heart and lungs in primary pulmonary hypertension is similar to that in the Eisenmenger complex. Indeed, the disparity between central and peripheral vessels may be greater in idiopathic pulmonary hypertension. Cyanosis is rare, except preterminally; dyspnoea is marked. Angiocardiology and peripheral blood oxygen studies are important for differentiation.

#### The Button Sequestrum of Eosinophilic Granuloma of the Skull.

C. P. O. WELLS (*Radiology*, November, 1956) states that the skull is one of the most common sites of eosinophilic granuloma of bone. Among the many articles which describe this lesion, however, only one has specifically called attention to the rather characteristic sequestrum produced in some of these cases. This sequestrum appears as a "button" of intact bone in the centre of a circular area of destruction. This finding has been noted radiographically by the author in four cases, all of which proved on histological examination to be cases of eosinophilic granuloma.

#### Congenital Biliary Atresia with Emphasis on the Skeletal Abnormalities.

E. J. LEVIN (*Radiology*, November, 1956) states that congenital biliary atresia is a developmental defect resulting in the complete exclusion of bile from the intestinal tract. There is no unanimity of opinion concerning the pathogenesis of biliary atresia, but the majority of investigators ascribe the process to a developmental abnormality rather than to an intrauterine hepatitis. Certainly the viral hepatitis of the neonatal period has no pathological resemblance to biliary atresia, and the haphazard distribution of atresic segments is more logically explained as the result of defects in embryogenesis. Although most patients die early in infancy, a significant number have survived for more than three and even as long as nine and twelve years. It is the prolonged survival time associated with gradually increasing hepatic decompensation which permits the development of so many different manifestations of the anomaly, most of which are identical with the findings in chronic liver disease of adults. Common to all cases of

congenital biliary atresia, even in the neonatal stage, are obstructive jaundice, cirrhosis and hepatitis. Radiographically two types of osseous disease are seen. The first is indistinguishable from deprivation rickets. There are poorly mineralized bowed bones with a coarse trabecular pattern. The depth of the epiphyseal cartilage is increased, and the ends of the diaphyses are frayed, cupped and widened. *Coxa vara*, *genu valgum*, triradiate pelvis and other rachitic deformities are generally present. In this type the serum calcium concentration is usually normal or slightly below normal, and the serum phosphorus concentration is low. The serum alkaline phosphatase concentration is always elevated, but the high levels are due in part to the obstructive jaundice. The second type of osseous dystrophy is unlike any vitamin, mineral or nutritional disturbance known to the author and may represent the effects of a combined vitamin A and vitamin D deficiency. X-ray examination in these cases demonstrates bones which are severely hypomineralized and have a homogeneous ground-glass appearance. The cortices are pencil-line thin, and the medullary cavities are widened. Undertubulation of the diaphyses is a prominent feature, so that the long bones have a box-like rectangular conformation. The depth of the epiphyseal cartilage is normal or decreased, and the adjacent zone of provisional calcification is smooth, thin and of the same mineral density as the cortex of the shaft. There is no bowing of bone, nor are joint abnormalities seen. The subperiosteal hemorrhages of scurvy and the subperiosteal osteoclastic resorption of hyperparathyroidism are not present. Surgical reconstruction offers the only chance of cure, and this is possible in approximately 16% of cases.

### RADIOTHERAPY.

#### Radiotherapy for Arthritic Conditions.

G. D. KERSLEY (*J. Fac. Radiologists*, January, 1957) has conducted an investigation of the value of radiotherapy in osteoarthritis, rheumatoid arthritis and ankylosing spondylitis. He stresses the need for adjuvant physical treatment, for postural exercises during radiation treatment and also for continuing overall management and advice by appropriate specialists. In the investigation, a control series was "treated"—they were placed under the machine, but the current was not switched on. The results are reviewed in 429 cases of osteoarthritis in which treatment was given at varying dosage levels. Of patients treated at high dosage 57% showed improvement which was maintained. Different parts of the spine showed varying response; the best results were obtained in the dorsal region, as 69% showed marked improvement. The poorest response was in the lumbar region. Those treated at lower dosage showed improvement, but this improvement was not statistically significant. Most of the 257 patients in the rheumatoid arthritis group were in the reactive phase and showed radiological evidence of

secondary osteoarthritic changes. The percentage of patients improved was 47 as compared with 30 in the control series, a difference which is not statistically significant, and it is probable that the osteoarthritic element influenced the result. In the group of 102 cases of ankylosing spondylitis, the response was more dramatic. At medium dosage 88% of the patients showed improvement, and at high dosage this figure rose to 95%. Pain relief occurred irrespective of stage of disease, and studies of the erythrocyte sedimentation rate in these cases showed a continued fall over the twelve months following treatment.

#### Radiation and Orbital Tumours.

M. LEDERMAN (*Proc. Roy. Soc. Med.*, October, 1956) considers orbital tumours examined at the Royal Marsden Hospital during the period 1933 to 1955. He classifies them into primary malignant and secondary malignant groups. In the first group, sarcomata of lymphoid tissue were the commonest primary tumours (33%), and were all uniformly radiosensitive. For these radiotherapy is considered to be the treatment of choice. Lachrymal gland tumours (33%) were analogous to the mixed tumour of salivary tissue, and their clinical behaviour is described as being as variable as their pathology. Surgical removal is favoured, followed by irradiation to help reduce the recurrence rate. The examples of rhabdomyosarcoma (16%) were all highly radiosensitive, but not radiocurable, and it is recommended that exenteration be carried out after irradiation. Secondary malignant tumours mostly had their origin in the paranasal sinuses (77 of 126 cases). Other neighbouring structures accounted for a further 29 cases; the remainder were metastatic tumours from breast, bronchus *et cetera*. The author states that the presence of neoplasm in the orbit is an index of the extensive nature of the disease; if radiotherapy is applied and fails, subsequent surgery is not likely to be successful. He then goes on to consider radiotherapy technique in the treatment of orbital tumours.

#### Conventional and Supervoltage Radiotherapy in Carcinoma of the Bladder.

T. A. WATSON (*Radiology*, October, 1956) compares treatment using 400 kilovolt X rays, Cobalt 60 telecurietherapy and 23 megavolt X rays. He states that the dose that can be delivered with cobalt and 23 megavolt therapy is higher than that with 400 kilovolts, and the volume of tissue and integral dose are smaller. Supervoltage irradiation results in more homogeneous dosage distribution, and because the high dose area is more sharply localized, irradiation of nearby bone is reduced. This, coupled with the fact that in supervoltage irradiation bone absorption is less, reduces the danger of bone necrosis. In sum, patients treated with supervoltage irradiation were more comfortable during and after treatment, skin reactions were non-existent, and patients with advanced bladder cancer, who have always shown a poor response to conventional X-ray therapy, have shown marked improvement with supervoltage therapy.

## British Medical Association News.

### SCIENTIFIC.

A MEETING of the Victorian Branch of the British Medical Association was held at the Gippsland Base Hospital, Sale, on October 6, 1956. The meeting in the afternoon took the form of a series of clinical demonstrations, and in the evening DR. ALAN JENKINS (Maffra) read a paper entitled "The Recognition of Neurological Signs".

#### Radiological Diagnosis of Oesophageal Changes.

DR. G. J. BALDWIN (Sale) showed a series of X-ray films to demonstrate various changes at the lower end of the oesophagus which may be diagnosed by X-ray examination.

The first case was that of an elderly man, aged sixty-four years, who complained of loss of appetite and inability to swallow shortly after an attack of bronchopneumonia. Barium meal X-ray examination showed a stricture at the cardiac end of the oesophagus. Oesophagoscopy revealed neither ulcer nor neoplasm. A Heller's operation was performed, and the patient now stated that he could eat like a horse, although post-operative X-ray examination showed a definite hold-up at the lower end of the oesophagus.

The second case was that of a man, aged thirty-eight years, with a history of alcoholism and personality changes. He had reported a three weeks' history of retrosternal pain and difficulty in swallowing of solid foods. The barium meal X-ray examination three weeks later revealed only a slight trickle of barium through an obstruction at the cardiac end of the oesophagus. Operation revealed an inoperable carcinoma of the oesophagus.

The third series of films related to a woman, aged twenty-seven years, who was six months pregnant. She had a history of dyspepsia unrelieved by lying down and unrelieved by alkalis. The barium meal X-ray examination showed a hiatus hernia, which was no longer apparent after the termination of pregnancy, when her symptoms were completely relieved.

The fourth case was that of a woman, aged seventy-two years, who had a barium meal X-ray examination because of an unexplained anaemia of 50%. The examination showed a large hiatus hernia with the greater part of the stomach in the thoracic cage. The patient died before any treatment could be instituted.

The fifth case was that of a man, aged forty years, with a previous history of tuberculosis, who complained that crusts stuck in his throat; the symptom was relieved by vomiting, and he was on a fluid diet only. Barium meal X-ray examination showed a blockage at the cardiac end of the oesophagus with a hold-up of twenty-four hours. A thoracotomy showed no evidence of tuberculous changes in the lungs, and a Heller's operation brought about complete relief of symptoms. The case was discussed because it was thought that the previous diagnosis of pulmonary tuberculosis might have been in error, and the changes might have been due to a recurrent aspiration bronchopneumonia.

In discussion, DR. ROBERT SOUTHEY (Melbourne) stressed the importance of carrying out a Wassermann test in many such cases. He said that nowadays syphilis was often overlooked as a diagnosis.

DR. GEORGE SWINBURNE (Melbourne) said that he favoured the use of dilatation in the treatment of cardiospasm after oesophagoscopy had been performed, and that he reserved Heller's operation for patients who could not swallow a bougie.

DR. GEOFFREY NEWMAN-MORRIS (Melbourne) raised the possibility of oesophagitis being the cause of the unexplained anaemia in the fourth case.

DR. J. M. ANDREW (Yallourn) stressed the importance of the thorough investigation of patients presenting with symptoms of difficulty in swallowing and of regurgitation of food.

#### Causalgia.

DR. HOWSON (Maffra) showed a left-handed young man whose right arm had been amputated in the upper third of the humerus in February, 1956, as the result of a falling tree, which also caused a complete brachial plexus lesion including a Horner's syndrome. The patient had also suffered multiple fractures elsewhere and a ruptured kidney. The patient now had a pronounced phantom limb in spite of the complete plexus injury, with a trigger point on the outer side of the stump, and the phantom limb pains

were also produced by eating. Dr. Howson discussed the possible causes of the causalgia and its management, and also the possibility of a prosthesis, as there was good scapular movement and the patient was intelligent and cooperative.

DR. G. SWINBURNE (Melbourne) agreed that it might be possible to provide a prosthesis.

DR. R. J. FLEMING (Foster) referred to the degree of recovery that occurred in some apparently complete brachial plexus lesions, and thought that delay in assessing the disability was advisable.

DR. R. F. MAX (Melbourne) suggested that electrical tests should be performed to decide whether any regeneration was taking place in the nerves, with a further test in three months. He also mentioned the possible value of ultrasonic waves in the treatment of causalgia caused by a painful scar.

#### Extensive Injuries from a Road Accident.

DR. HOWSON also showed the X-ray films of two young men, who had both suffered severe injuries to their right legs as the result of an accident to a motor-bicycle on which they were both riding.

The first patient had a wide separation of the *symphysis pubis*, which was reduced by treatment in a sling, and also a shattered lower shaft of the femur with extensive bone loss, for which amputation was necessary.

The second patient also had a wide separation of the *symphysis pubis* and a supracondylar fracture of the femur, a fractured tibia and fibula which required plating, and extensive damage to the dorsum of the foot, at which site gas gangrene subsequently developed. The gangrene was successfully treated by wide local excision.

DR. R. SOUTHEY (Melbourne) stressed the point that two young men were disabled for many months through a road accident which was almost certainly preventable.

#### Volvulus of the Sigmoid Colon.

DR. D. I. FITZPATRICK (Sale) first showed a man, aged seventy-five years, with a volvulus of the sigmoid colon. He had an eighteen months' history of lower abdominal distension and pain, with intermittent constipation and diarrhoea. At the first operation the sigmoid mesocolon was untwisted and fixed, but the condition recurred, and a fortnight before the meeting the sigmoid colon was excised and a primary anastomosis was performed.

DR. FITZPATRICK discussed the differential diagnosis of megacolon and volvulus of the sigmoid, and referred to the possibility of a degenerative lesion of Auerbach's plexus as the aetiological factor in the so-called Hirschsprung's disease in adults. He also mentioned recent publications describing the use of frozen sections to determine the level of normality of the sigmoid colon at operation.

DR. R. SOUTHEY (Melbourne) discussed the pathology of Hirschsprung's disease in children.

DR. G. NEWMAN-MORRIS (Melbourne) drew attention to the "take-up" of the sigmoid mesocolon after operation for sigmoid volvulus.

#### Uterine Carcinoma and Subsequent Obscure Facial Pain.

DR. FITZPATRICK's second patient was a woman, aged sixty-one years, who had a long medical history, including diathermy for a cervical erosion in 1934. That had been followed in 1947 by a carcinoma of the cervical stump treated by radium, with a subsequent stricture of the right ureter and an ulcer in the large bowel. She had had a right antrum washout for sinusitis in 1937, and in 1940 complained of pain in the right side of the face and the left lower jaw. She was at present complaining of intermittent severe pain below the left eye and had slight exophthalmos on the left side.

DR. FITZPATRICK said that he presented the patient from two points of view—first to stress the importance of a biopsy of any cervical erosion and a diagnostic curettage before any hysterectomy, and secondly for diagnosis of the present condition. He wondered whether the patient might be starting trigeminal neuralgia, or whether there were secondary deposits from the cervical carcinoma.

DR. R. SOUTHEY (Melbourne) said that he thought the pain was a true "tic" pain, and that probably increased intraocular tension rather than true exophthalmos was present. He suggested a complete ophthalmological investigation.



DR. G. SWINBURNE (Melbourne) discussed the possibilities of retroocular disease or malignant disease in the ethmoid region, and suggested further X-ray examination.

#### Thyroid Enlargement.

DR. G. J. POLLOCK (Sale) first showed a woman, aged forty-two years, who was mentally dull and was overweight, although she had recently lost three stone. She had grossly enlarged legs, which were painful. On examination she was found to have moderate generalized thyroid enlargement and a fine tremor of the hands; there were no abnormal eye signs. The basal metabolic rate was +87%; the red blood cell count was within normal limits, but the white cells numbered only 2800 per cubic millimetre.

Dr. Pollock said that he had shown the patient first with regard to the possibility that a thyrotoxic state might develop in a myxoedematous patient, and secondly, with regard to treatment.

DR. G. J. B. BALDWIN (Sale) briefly discussed the question of thyroid enlargement occurring in Gippsland and the problem in the borderline case. He suggested the use of antithyroid drugs as a therapeutic test, but thought that this should be approached with caution because of the low white cell count.

DR. G. SWINBURNE (Melbourne) asked whether any cause had been sought for the low white cell count.

DR. G. NEWMAN-MORRIS (Melbourne) suggested that a protein-bound iodine test should be performed in an attempt to confirm the diagnosis of thyrotoxicosis.

DR. J. M. ANDREW (Yallourn) mentioned a patient who had been receiving five grains of thyroid extract daily for years for treatment of myxoedema, and who suddenly became thyrotoxic; her symptoms were relieved by thyroidectomy.

DR. R. SOUTHEY (Melbourne) asked whether a Wassermann test had been performed.

#### Fatal Tetanus.

Dr. Pollock next presented the clinical history only of a woman, aged forty-two years, who had died of abdominal tetanus after a laparotomy carried out for abdominal pain and anorexia. At operation many adhesions were present, and the peritoneal cavity was full of offensive blood-stained fluid. The terminal six inches of the ileum were gangrenous; they were resected and an ileostomy was established, and 1500 units of antitetanus serum were given at the end of the operation. The next day the patient developed stiffness of the jaw, neck and body, and later typical tetanic spasms. In spite of all routine treatment with "Pentothal", "Myanasin" and sedatives, and a tracheotomy, the patient died next day. Tetanus bacilli were recovered from the peritoneal fluid *post mortem*.

Dr. Pollock, in discussing the case, said that 5% of people normally carried *Clostridium tetani* in their bowel.

DR. J. E. GRAVES (Heyfield) stressed the importance of laboratory facilities to check carbon dioxide tension in the blood and other aspects of blood chemistry in patients with tetanus. He said that he thought those facilities were available only in the big metropolitan hospitals.

### Out of the Past.

*In this column will be published from time to time extracts, taken from medical journals, newspapers, official and historical records, diaries and so on, dealing with events connected with the early medical history of Australia.*

#### CLINICAL INSTRUCTION AT PRINCE ALFRED HOSPITAL.<sup>1</sup>

[From *The Australasian Medical Gazette*, May, 1883.]

At a meeting of the Senate of the University of Sydney held on April 9 1883 a letter was received from Mr. Cecil Purser Honorary Secretary of the Sydney University Medical Society urging upon the Senate "the necessity that exists for the more regular attendance as to day and hour of the Honorary Medical Officers of the Prince Alfred Hospital and

<sup>1</sup> From the original in the Mitchell Library, Sydney.

also of the necessity for the Honorary Medical Officers giving more bedside clinical instruction than they do at present". After considerable discussion in the course of which objection was taken by the Chancellor to any recognition by the Senate of a "Society" amongst Undergraduates which had received no recognition from it and was not regulated by the by-laws of the University, as in the higher case of Convocation, Mr. Justice Windeyer moved that the letter be sent to the Board of Directors of Prince Alfred Hospital for its information. Mr. Barton moved as an amendment "That Mr. Purser be informed that the Senate will consider the application if made afresh under the Signatures of the Students who complain". The amendment upon being put to the meeting was negatived and the original motion was carried.<sup>1</sup>

### Correspondence.

#### A SHORTAGE OF DOCTORS.

SIR: A lot of publicity has recently been given to an alleged shortage of doctors in this country. I feel that this is a misleading impression. In my opinion there is a demand for staff officers in hospitals out of proportion to the number of first-year graduates desirable. This demand is likely to increase with advancing technology.

One's ideas of the amount of "medical labour" best for the community are, of course, largely dependent on one's opinion of the functions of a medical graduate. If one assumes that the job of expensively trained and (it is hoped) highly selected university graduates is to write unending monotonous repeat prescriptions "legibly" and "in the doctor's own handwriting"; if the doctor's physical presence in the home is required each time a dressing is changed or an injection is given to a pensioner (or no payments); and if one in addition assumes that the general practitioner's job may exhaust itself in routine administration of placebos or specialist-directed measures and that anything "serious" "must" automatically go to a consultant; then there may be indeed an increasing shortage of medical manpower, and then the medical education of general practitioners could conceivably be shortened, if not omitted.

I, however, feel that the best possible general practitioner should be a highly trained man—so highly selected, indeed, that it would not be practicable or economical to degrade him to jobs that could just as well be done by his technical staff, so that he would be free to concentrate on the patients and their environment and to perform the skilled procedures that he alone is qualified to perform. This would require amendment of legislation. It should not matter who writes or prints a prescription, so long as the general practitioner signs and is liable. It should be left to him to decide for whom and on what occasion he wants to hand-write a prescription specially for his patient. It should not matter, as regards payment, who performs a professional duty, such as dressings, injections *et cetera*, so long as he holds the liability—just as a motor mechanic does, when an unskilled assistant or apprentice carries out the repair. There is a great need for university graduates in other fields than medicine. It seems to me utter folly to create a demand for doctors by forcing them into less skilled procedures "or no payment".

I feel that a general practitioner is a specialist of his own—not in any group of diseases, but in the patient community under his constant care. No general practitioner is at his best unless he has grown into his patient community over a number of years and has become part of it. This is a process of specialization, because the morbidity of various patient communities is variable, but on the whole, limited. Among a multitude of harmless coughs he has to pick the one early cancer of the lung. Among hundreds of harmless dyspepsias he has to pick the one cancer of the stomach. When he is at his best he must "sense" the danger when it is still far from obvious, and limit costly investigations and radiation hazards to the narrowest possible compromise compatible with safety—a task capable of taxing any consultant. He must have the time to make himself intimate with the social patterns in his community. This alone will enable him to detect and draw public attention to health hazards resident in his patient environment. He should, in other words, be the first, but equally skilled, lymph gland in a network of consultant lymph glands.

<sup>1</sup> One result of this discussion was that the Senate decided to recognize the Medical Society by allowing it to retain the word "University" in connection with its name.



The precious minority of capable brains in our community should, I feel, be utilized to the fullest all the time, and should have time to be so utilized.

Many more patients could be handled by a single doctor, and he could concentrate more on examination, assessment and really skilled procedures, if the above-mentioned amendments were made and he could delegate functions of lesser skill to staff under his liability.

There remains, of course, the fact that hospitals want to be run with the cheapest and most obedient form of medical labour. So why not lengthen, if necessary, the compulsory year by a rural quarter, to be spent in a small outback hospital? This would give each graduate at least a smell of emergency measures, without staff and with simple equipment only—an experience which would come in handy once an emergency of nation-wide, even world-wide, character arose.

Good doctors cannot be many. A smaller, but really competent, body of general practitioners, supported by a considerably larger body of auxiliary medical workers (nurses, clerks, technicians), could, I feel, do a better job than a lot of lesser doctors without staff. This would look like a top and a bottom, and nothing in between.

It will, of course, be for the Council to consider the basic line of development of our great public service, and one looks forward with interest to what this Council's ideas of the future shaping of medical services are.

Tea Gardens,  
New South Wales,  
March 22, 1957.

Yours, etc.,  
HANNS PACY.

#### ELECTRO-CONVULSIVE THERAPY IN STATUS EPILEPTICUS.

SIR: We have noted that if electro-convulsive therapy is given to a patient who continues to have a succession of fits, the treatment results in the cessation of fits, no further fits occurring. The voltage and time required for the current is the average usually required.

It has been the practice here to use artificial respiration immediately after the fit has been produced, because there may be a delay otherwise in the return of respiration.

This note is published in case others have noted the same phenomenon, and in case such treatment is indicated in appropriate cases of status epilepticus.

Lachlan Park Hospital,  
New Norfolk,  
Tasmania,  
March 22, 1957.

Yours, etc.,  
S. J. CANTOR,  
N. R. PATERSON.

#### SALT CONSUMPTION AND ITS CONSEQUENCES.

SIR: After reading the "Current Comment" in the journal of February 9, 1957, and Surgeon Captain J. M. Flattery's interesting comments on March 23, 1957, may I be permitted to express a few personal thoughts on this subject?

Here in Mackay, where summer temperatures average around the 90° mark and humidity is very high, heat effects are but seldom seen. After a large early morning operation in our local operating theatre one returns to the surgery soaked, clammy, even cold and often fatigued. I find that a teaspoonful of salt overcomes these conditions in ten to fifteen minutes. If one spends a Saturday afternoon in the garden, sweating intensely, from 2 to 6 p.m., I find that even 15 to 20 glasses of water still leave one thirsty. If a teaspoonful of salt is taken at 2 p.m. and another at 4 p.m., one can survive without thirst on seven or eight glasses of water.

In India, during the war, I was stationed on the Ganges at a Royal Air Force station exposed to hot desert winds. After a trying summer, the temperature would finally range between a maximum of 110° to 118° with a minimum of 85° to 95° for the six weeks before the monsoon broke. Airmen working on aircraft could hardly touch the machines all day long due to the intense heat of the metal, and conditions were extremely trying for them. Salt was ordered for them in 1942, and was added to their drinking

water in 1943. In 1944 I estimated that they should take about eight teaspoonfuls of salt in addition to salt used for cooking purposes. They were advised to pour salt over their porridge, into their soup and over their meat and vegetables. In addition, small quantities of salt were added to all the drinking water. Large amounts of salt in water tended to make certain personnel sick. Heat effects, some very severe, were very common at that station. In 1942, 226 cases occurred out of every 1000 personnel. In 1943, 148 cases per 1000 personnel. In 1944, with heavy salt intake, 25 per 1000 personnel, and all of a minor character.

I am convinced that a teaspoonful of salt daily under these conditions would have been useless in preventing heat effects.

In western Queensland, Central Australia and like areas, people live on large quantities of salted meat, which is probably a normal physiological intake unwittingly designed to avoid a salt deficiency.

The whole salt question is very interesting, and the quantity needed appears to vary with heat conditions.

I have never been convinced that salt tablets have any real value compared with common table salt, which is cheaper, more palatable, purer and so much easier to use when spread over food or taken in water.

Yours, etc.,  
S. C. WILLIAMS.  
22 Gordon Street,  
Mackay,  
North Queensland.  
Undated.

#### BRISSAUD'S REFLEX.

SIR: The following notes summarize data obtained in the study of Brissaud's reflex, which reflex has been obtained in alcoholics only.

It is elicited by stroking the sole of the foot. The reflex—contraction of the *tensor fasciae femoris* on the same side—is easily fatigued. It may be obtained only once or a few times only. The movement of the muscle is relatively slow. At times, repeated, quickly made stroking of the sole will produce a series of Brissaud's reflexes. Generally if ordinary reflexes, such as the plantar reflex or knee jerk, have disappeared, Brissaud's reflex is not elicitable. However, Brissaud's reflex may be elicited when the plantar reflex is not obtainable.

Brissaud's reflex is a useful diagnostic sign of chronic alcoholism. Fifty cases of the reflex have been found here to date.

Yours, etc.,  
S. J. CANTOR,  
N. R. PATERSON.  
Lachlan Park Hospital,  
New Norfolk,  
Tasmania,  
March 22, 1957.

#### EARLY BREAST CANCER AND ITS MANAGEMENT.

SIR: Discussions which have arisen from the publication of "Early Breast Cancer and its Management" in the journal of March 30, 1957, have prompted me to elaborate on certain aspects of the problem.

Firstly, ten-year survival figures (as opposed to five-year figures) are more informative in view of the natural history of breast cancer; for although patients have been known to survive for as long as thirty-two years after operation for breast cancer (Bryant, quoted by Gordon-Taylor, 1948), the average expectation of life in the untreated case is three and a half years. (Lazarus-Barlow and Campiche, quoted by Gordon-Taylor, *loc. cit.*)

The next consideration is the much discussed question of the risks of dissemination and of growth stimulation resulting from biopsy of cancerous tissue. There would appear to be a risk of dislodgement of malignant emboli from cords of cells which have permeated lymphatic and blood vessels in and around the tumour (or lymph gland), and it may be argued that dissemination is more likely to occur in the post-biopsy period as a result of an increase in the local blood flow. It is probable that the local trauma, releasing trephones and "wound hormones", does give impetus to mitotic division; but at the same time there occurs a marshalling of the body's defence mechanisms with

increased phagocytic activity and formation of a fibrin barrier—factors likely to limit dissemination and growth. These risks associated with biopsy, then, are calculated risks. They are minimized by careful handling (not at operation only, but also during physical examination), by the use of frozen section, and of rapid methods of preparation of paraffin sections.

Further comment is called for concerning technical points. Excision of supraclavicular and parasternal glands for purposes of histological examination, as an initial step in determining the management of "early" breast cancer, is done with full cognizance of the dangers and difficulties which may be encountered.

In the supraclavicular area the chief dangers are hemorrhage and air embolism as a result of injury to veins (internal and external jugular, subclavian, transverse cervical, suprascapular), and leakage from the thoracic or other major lymphatic trunks. The shoulder should be depressed, and infiltration with saline containing adrenaline (one in 50,000 or 100,000) is an advantage.

When excising glands in the second and third intercostal spaces, a vasoconstricting solution is again desirable, and a vertical incision is preferable. Sufficient of the third costal cartilage should be removed to give access, and the glands should be excised together with a segment of internal mammary vessels and surrounding fat *en bloc*. With careful technique, risk of hemorrhage from the internal mammary vessels or its perforating branches is small. Ballooning caused by the injection pushes the parietal pleura out of harm's way.

In conclusion, it should be stressed that the above procedures should be done under general anaesthesia, with facilities for intubation and pressure anaesthesia if the pleural cavity is inadvertently opened, and that there should be access to a competent opinion on histological sections prepared in the shortest possible time.

Yours, etc.,

F. J. GRAY.

2 Erin Street,  
Richmond, E.I.,  
Victoria.  
Undated.

#### Reference.

GORDON-TAYLOR, G. (1948), *Proc. Roy. Soc. Med.*, 41:120.

SIR: Dr. Gray (M. J. AUSTRALIA, March 30, 1957) should be supported in his advocacy of more careful selection of patients for radical mastectomy. To do a radical mastectomy when the internal mammary or supraclavicular nodes are already metastasized is, of course, like shutting the stable door very elaborately after the horse is out. Actually such surgery is worse than futile. There is evidence (Haagensen, 1956) that it in fact shortens life. Further, the patient is afflicted with the greater morbidity of the radical operation as compared with other forms of therapy. I refer especially to sloughing of the flaps, infection and delayed healing of the wound, and lymphoedema of the arm.

Of patients whose breast cancers have hitherto been regarded as operable in most clinics, it is now known that about 30% will have metastases in the internal mammary nodes. This is an important new development, and the problem which it poses cannot be ignored by the practical surgeon. Haagensen (1956) has indicated the type of disease in which his "triple biopsy" technique (primary tumour and internal mammary and apical subclavian nodes) may be applied. Such triple biopsy provides definite histological evidence as to lymphatic spread to, and beyond, the margin of the standard radical mastectomy. Its use will complicate our surgical treatment, but I believe we must adopt it if we are to avoid a greater number of futile and harmful radical mastectomies.

Yours, etc.,

F. F. RUNDLE.

Unit of Clinical Investigation,  
Royal North Shore Hospital of Sydney,  
Crows Nest,  
New South Wales.  
April 9, 1957.

#### Reference.

HAAGENSEN, C. B. (1956), "Diseases of the Breast", Saunders, Philadelphia.

#### THE DANGER OF EATING RAW MEAT.

SIR: The primitive urge to gain the strength of an animal by eating its raw flesh is sometimes seen even today among people who are in training for various sports, especially

among boxers. This mistaken belief is not without its dangers, as is illustrated by the finding of tapeworms among those addicted to raw meat or uncooked pork sausages.

I have recently seen a young man who, while training as a boxer in Sydney, ate raw meat and subsequently developed a beef tapeworm. He has never been abroad.

Inquiry at the Homebush *abattoirs* revealed that infected carcasses are seen not infrequently, and a lightly affected case could escape the vigilance of the inspection staff. My attention has been drawn to a case of *Taenia solium* infection which occurred in a New South Wales country town in a child who ate raw pork sausages.

Infestations with tapeworm appear to be increasing and most cases are among migrants.

Whereas *Taenia saginata*, the beef tapeworm, is merely an unpleasant annoyance, its increasing incidence may suggest that the more serious *Taenia solium* (pig tapeworm) may also be on the increase, and those who seek strength in raw meat should be aware of the risks they run.

Yours, etc.,

Z. FREEMAN.

217 Macquarie Street,  
Sydney,  
March 15, 1957.

#### KALA-AZAR IN A CHILD OF FIVE YEARS.

SIR: I was interested to read the case report by Dr. Andrew Rigg in THE MEDICAL JOURNAL OF AUSTRALIA, March 23, 1957, of a child with kala-azar. Two years ago a child came under my care at Prince Henry's Hospital, Melbourne, suffering from this disease. He had lived in the same district of southern Italy as Dr. Rigg's case until a few months previously. The same inadequate result was obtained from pentamidine isethionate therapy, and after two courses of this drug, a supply of pentavalent antimony was obtained from Germany, and a single course was given with rapid response and what appears to have been a lasting cure, though it is probably too early to be confident that there will be no relapse, and in any case the child has now ceased to be in my care.

Yours, etc.,

T. DUDLEY HAGGER.

575 Ruthven Street,  
Toowoomba,  
Queensland.  
April 1, 1957.

#### Obituary.

##### ALFRED FAY MACLURE.

We are indebted to Dr. Robert Officer for the following appreciation of the late Dr. Alfred Fay Maclure.

On October 4, 1956, one of Victoria's great surgeons and teachers passed away.

Alfred Fay Maclure was born at Hay in New South Wales in 1883; he was educated at Wesley College, Melbourne, where he had a brilliant scholastic career. He then proceeded to an equally brilliant medical career at the University of Melbourne, where he graduated M.B., B.S. in 1906. After his graduation he became assistant to Dr. Duncan in general practice at Kyneton in Victoria. Two years later he became resident medical officer at the Alfred Hospital, Melbourne. In 1909 he received his doctorate of medicine, and in 1911 he became a Fellow of the Royal College of Surgeons. On his return to Australia he was appointed to the surgical staff of the Alfred Hospital, Melbourne, in 1912.

In 1915 he enlisted for service with the Australian Army Medical Corps, with which unit he served with distinction for the next four years both in the Gallipoli campaign and in France. He served with the Second Casualty Clearing Station and the Second and Third General Hospitals. On the cessation of hostilities, he was awarded the Order of the British Empire (Military Division) in recognition of his services throughout the war.



After the war he spent two years at Sidcup in Kent with a plastic surgical unit under the leadership of Sir Harold Gillies. On his return to Australia he was appointed an in-patient surgeon at the Alfred Hospital, a position which he held until his retirement in 1945. Throughout his long association with the Alfred Hospital, he was an inspiration at all times to his colleagues and to the large number of resident medical officers and students who became associated with him. He was outstanding for his ability both as a surgeon and as a teacher. His interest in teaching was not confined to medical students, but he was just as enthusiastic in his aid and advice to the nurses training in the hospital as he was to the resident medical staff. He had the ability, not only to impart knowledge, but to stimulate all who were associated with him to think for themselves. His interest in students and nurses did not cease with their graduation, but continued for many years after. There are few of the present surgical staff at the Alfred Hospital today who do not owe much to Fay Maclure's example and to his teaching.

There were further interests which occupied him, apart from his surgical practice and the Alfred Hospital Clinical School. On his return from the first World War, he commenced what was to become a long and close association with the dental profession. This association continued until his initial illness in 1947. One of his main objectives was to bring the medical and dental professions close together for their common good, and also that they might better serve their public. The debt owed to him for his stimulating influence and his impact on the dental profession will perhaps never be fully evaluated. In 1922 he became a lecturer to the senior dental students in the principles of oral surgery and the surgical approach to dental diseases. In 1926 he was appointed Medical Representative on the Dental Board of Victoria, and he held this position until 1930. In 1929 he became chairman of the Dental Practitioners' Education Committee, a position which he held until 1936. In that year he resigned his position, and in recognition of the services he had rendered to dentistry, he was created an honorary member of the Victorian Branch of the Australian Dental Association.

Fay Maclure was early associated with the Royal Australasian College of Surgeons. He was a Foundation Fellow, and in 1927 was one of the original signatories to the Article of Foundation of the Royal Australasian College of Surgeons. For some years he served as chairman of the Victorian State Committee in its difficult early formative years.

He retained an active interest in all past residents of the Alfred Hospital, and was an enthusiastic supporter, and at one time president, of the Alfred Hospital Old Residents' Association.

In 1947, after a long and arduous career in surgery, when thoughts of retiring were uppermost in his mind, a cerebral thrombosis commenced a period of invalidism which lasted for nine years. Throughout this period he bore his disability with patience and courage, and his interest in past medical students and nurses never flagged. Their friendship throughout was a great help to him in maintaining his cheerfulness despite his enforced inactivity.

SIR VICTOR HURLEY writes: Fay Maclure entered Wesley College, Melbourne, in 1897. He was head of the matriculation form and Draper Scholar in 1899, and in 1901 was *dux* of the school, and winner of the Walter Powell Scholarship. He obtained the exhibition in physics and chemistry at the University examinations the same year, and was also awarded a major scholarship to Ormond College, where he entered as a medical student in 1902. He obtained honours throughout his course, and after graduation was appointed resident medical officer to the Kyneton Hospital, and later to the Alfred Hospital and the Women's Hospital, Melbourne.

In 1911 he went to London and gained the Fellowship of the Royal College of Surgeons of England. The greater part of his preparation for the Fellowship was carried out at the Middlesex Hospital, where he came under the teaching of Pearce Gould, Bland Sutton, Sampson Handley, Gordon Taylor and other members of a very strong staff. On his return to Melbourne he joined the late Dr. R. H. Morrison in his practice, and also returned to work at the Alfred Hospital, which he was to serve thereafter for the rest of his professional career. Hamilton Russell was at this time the outstanding surgical figure at the hospital. There was always a close friendship between Russell and Maclure, and in later years Maclure carried on at the Alfred Hospital the Russell tradition and methods, both as a surgeon and as a teacher of surgery.

During the first World War he served with the Australian Imperial Force in France and Belgium. He was well fitted for military surgery by reason of his imperturbable temperament, courage, and unlimited capacity for work under the most trying or desperate conditions. His efficiency, together with his kindly nature, always gained the confidence and appreciation of staff and patients. Always dependable in an emergency, he was a master of improvisation and of getting things done. He was an early exponent of the teachings of Robert Jones in the treatment of the mutilating and severe bone and joint injuries which were so frequently met with, and proficient in the use of Thomas's splints and methods at a time when there was a tendency to depart from them.

Towards the end of the war it was evident that there would be much plastic surgery to be done for the wounded on their return to Australia. To deal with these cases, the British authorities had established a special plastic surgery centre at Sidcup in Kent under the direction of Sir Harold Gillies. The Director of Medical Services, Australian Imperial Force, arranged for an Australian Imperial Force team to be attached to the staff of this hospital. The team consisted of Sir Henry Newland and Fay Maclure as surgeons, Kenneth Russell as dental officer, and Sergeant (now Sir) Daryl Lindsay as artist and recorder.

On his return to Australia after the war, Maclure served for several years as one of the surgeons to the Repatriation Hospital at Caulfield, where he continued the work in plastic surgery as well as in general surgery. He also returned to the staff of the Alfred Hospital. He, and the many other younger surgeons from the Australian Imperial Force, introduced methods and teaching which they had acquired by their wealth of experience overseas, and by the wide and close contacts they had been afforded with other surgeons from other countries. This resulted in a great stimulus to Australian surgery and to post-graduate work generally, which was to continue in the succeeding years.

At the Alfred Hospital Maclure was a tireless worker. He was always to be obtained at any hour for emergency cases. For some years he lived across the street from the hospital, so as to be more readily available. He was an energetic teacher of students, employing Socratic methods interspersed with tense comments and homely quips of dry humour. He did much to build up the clinical school of the hospital in its earlier years. For many years he was a lecturer and examiner in surgery for the University of Melbourne, and also for the Dental School. He took an active part in the foundation of the Royal Australasian College of Surgeons.

He had many relaxations outside his professional work. Born and bred in the country, he loved the wide open spaces, where he spent most of his holidays. He had pastoral interests in the Riverina and in western New South Wales. He was a keen fly fisherman and golfer, and for many years played regularly in the annual inter-hospital golf match against the Royal Melbourne. After his retirement from practice some years ago, he spent much of his time in his well-equipped workshop, where he could turn out a surgical instrument, splint or some special gadget with the finish of a skilled tradesman.

Maclure's influence and teaching will leave a lasting mark on surgery and surgical teaching, not only in Melbourne, where most of his work was done, but also elsewhere in Australia where he had many close friends.

SIR DARYL LINDSAY writes: Towards the end of World War I, I was privileged to work under two great Australian surgeons—Henry Simpson Newland and Fay Maclure. I was posted to the Queen's Hospital, Sidcup, as Official Artist to record the work of the Australian Section of Plastic Surgery. Although I had had no previous experience of this work, it captured my interest from the first hour I spent in the theatre, and I have never ceased to admire the work and the high standard set by these two men who have done so much to influence the medical profession in Australia today.

Here I want to speak of Fay Maclure. The friendship started at Sidcup developed and continued until I last saw him a few weeks before his death. It seems scarcely fitting that a layman should comment on the technicalities of surgery; but in the year I was at Sidcup, and since, I have seen many eminent surgeons operate, and this experience has given me the basis on which—with all humility—I feel I can form some kind of opinion. Technical skill must be one of the first attributes of a great surgeon, but it is by no means the end-all of the business. Unless it is allied to an analytical and philosophical mind, it can become just a piece of highly skilled carpentry.



To watch Maclure make an incision was to realize that here was a man who knew exactly what he was going to do and why. (He once said to me that in teaching students "why" was the most valuable word in the English language.) There was no indecision—a knife directed by a mind that was clear and full of confidence—and so it went on through all the stages of an operation.

But to me there was another side of his work that interested me even more—his originality of thought; every case was a new problem, and he brought to it something essentially his own. I believe his colleagues and the students who came in daily contact with him in the consulting room and in the lecture theatre would agree that he had the qualities of a highly skilled surgeon combined with

2000 sheep in rough country, her only help a daughter—and they did their mustering on bicycles. Maclure had an eye for character, and there was always a poker-faced wise-crack or a sympathetic word for these simple people living the hard way. But mostly he listened and occasionally went to sleep. He had a capacity for being able to sleep anywhere, at any time, and in any position. I once saw him while talking to a tank-sinker on a blistering day with the temperature about 110° F. lean back over the radiator of his car and go sound asleep. These are among the things I like to remember him by.

Fay Macure seemed to me to be one of those rare people born knowing most of the answers: he had a quiet sense of humour, a deep understanding of humanity and an amazing fund of common sense. These things he brought to the practice of his profession. His philosophy of life and his high ideals are perfectly expressed in the words he used in the unveiling of the Memorial Tablet at the Alfred Hospital on September 28, 1948. What he said that day is a lasting memorial to himself and an inspiration to all who aspire to follow the standards he set.

#### LESLIE JAMES ALBERT PARR.

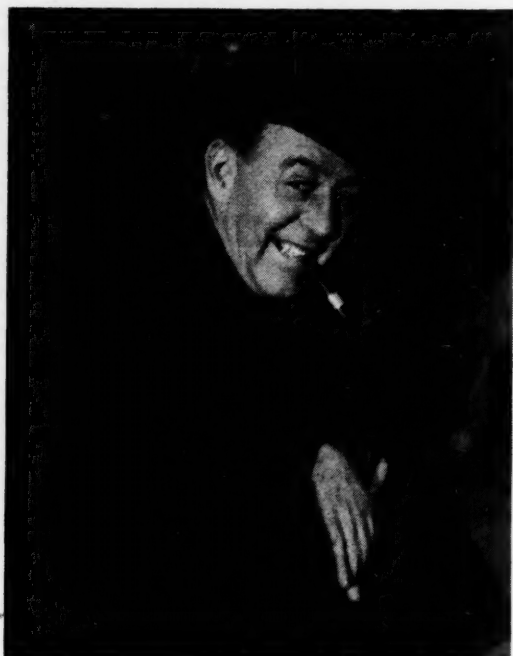
LESLIE JAMES ALBERT PARR died in Sydney on December 3, 1956, after a surgical operation; he had packed a great variety of activities into the fifty-nine years of his life and was just gaining the recognition that his ability warranted. He was born on June 15, 1897, and was educated at Kogarah School, Sydney High School and the University of Sydney, from which he graduated in medicine and surgery in 1920. After serving on the resident medical staff at Sydney Hospital and Kogarah Hospital he entered general practice in 1922. He continued in this, first at Newcastle and then at Ashfield, until 1939, when he took up specialist practice in rheumatology. He held the position of honorary rheumatologist at the Royal South Sydney Hospital, the Balmain District Hospital and the New South Wales Community Hospital. He served in the Australian Army Medical Corps during the second World War, first with the Second Tank Battalion and later with the 113th Australian Casualty Clearing Station. In his later years he entered the active political field and was at the time of his death the Member for Burwood in the New South Wales Legislative Assembly. However, he did not lose his interest in the speciality that had claimed him, and shortly before his death he was elected as the first President of the Australian Rheumatism Association (British Medical Association).

Another important side of Leslie Parr's character was his interest in the things of the spirit, and he was President of the Strathfield Bible Training Institute from its foundation, a period of some fifteen years. For recreation he turned to fishing, surfing and music.

Leslie Parr's death, which followed fairly soon on that of his wife, came at the height of his activity and usefulness, and will be deeply regretted by many. We offer our sympathy to his two daughters who survive him.

DR. F. WILKIE SMITH writes: The death of Dr. L. J. A. Parr removes a colourful member from the ranks of the medical profession. He was a distinguished physician, a devout churchman and a politician of merit. His most noteworthy contribution to medicine was his research into rheumatoid arthritis, for which he carried off three important prizes open to members of the British Empire. They were the Gold Medal of the Hunterian Society, the Sir Charles Hastings Prize and the Stawell Clinical Prize. Some of his colleagues thought that this outstanding achievement merited a doctorate from his *Alma Mater*, but this did not come his way. He was a pioneer member of the Section of Physical Medicine and was President for one year. He never missed a meeting, contributed many papers and was readily on his feet in discussion. He lent a kindly ear to any member who had anything to say whether new or old, provocative or radical. His best audience was an audience of one, for here there was no gag or gong to bring him to order with: "Time's up!" Lucky was he who could get a word in or a challenge under these circumstances, although he was gentle with it all.

He was a devout churchman and regularly conducted services. A member of a Bible study group informed me that Parr could always find one night a week to join this group in discussion, and he mixed with all classes. Although he had profound religious faith, he never flaunted his spiritual life before his colleagues, nor did he flagellate the transgressor or the impious.



the profound knowledge of a great physician. He once said: "To operate is the last resource of the surgeon."

Many a time I have watched Maclure sitting at the bedside of a patient—listening and watching—his mouth a little open—as is often the case with a man who thinks deeply and who is almost unconscious of all around him except the object of his thought. Maclure, like most original minds, was an observer of life and a great listener. I remember a story of a man who consulted him and who was convinced he had a malignant growth in the bowel. Fay listened to his story for more than an hour, putting in a question here and there, and at the end, after a period of silence, he said: "There is little wrong with you except fear—you are frightened of life and have been running away from it for 30 years."

Born and bred in the country, he had an intimate knowledge of the land, and an understanding of those people who live close to it; to these things he brought the same observation and balanced judgement as he brought to his profession.

I was fortunate in accompanying him on two trips to the back country of New South Wales. Everybody from squatters, country practitioners, publicans and boundary riders to dead-beats knew or had heard of the "Doctor", and by bush telegraph knew of his "coming through". Each had his tale to tell—and as time is of little account in such places, we would sit in the shade of a tree or lean against a fence post and hear the local news. I see him now sitting in a dark hut at the bedside of an old boundary rider over eighty who was in a pretty bad way. The old man rambled on—about the early days when men were men, and the horses worth throwing a leg across. And the woman who had recently lost her husband, cheerfully battling on with

He was respected as a politician and debated in most Parliamentary sessions. If a problem arose which research into records of Parliament could help, then he took full advantage of the library available, and he was reputed to have spent much time there. At times he was trenchant in attack, whether it was upon a measure before Parliament or upon a Member, but he was quick on his feet to atone if it was shown that he had erred or accused unjustly. It was no secret that his ambition was to occupy the portfolio of Minister of Health for the State of New South Wales, and his close friends know that his dream was to build a hospital for treatment of and research into rheumatic disorders.

Dr. Edgar King some years ago prefaced a lecture with these words:

God gives to every man the choice between truth and repose,  
Choose which ye will, you can't have both.

(Author unknown.)

Restless, strong and robust in appearance, Parr often worked the rounds of the clock seeking truth, which to him was like Everest, "there to be conquered". He died at the early age of fifty-nine years, his wife preceding him by two years, and he leaves behind two daughters, who reflect the happy home from which they came. No Uriah Heep flexed knee bids him farewell, for he was too humble to ask for that; but a simple colleague who is glad to have known him just "dips the lid".

DR. MICHAEL KELLY writes: By an irony of fate, Leslie Parr was to die soon after he had been chosen by his rheumatologist colleagues to lead them, and before he could publicly assume the position. He was always an enthusiastic student of the rheumatic diseases, and he was overjoyed to be an instrument in bringing that to fruition for which he had worked for many years. From his early days in general practice he combined an intense interest in his rheumatic patients with wide reading in this field. He knew everything which was written on the subject, and he was able to put it to the test in his own extensive practice.

Twenty years ago it required a certain amount of courage to confess an interest in the rheumatic diseases; inevitably it meant that a few eyebrows would be raised. There was no recognized scientific approach to this vast amorphous mass; often the doctor did not have much to offer his patients except sympathy and the ability to inspire faith and hope. Parr's great gift was that he was able to give his patients this inspiration, and at the same time he kept closely in touch with every advance of knowledge. As knowledge increases, more and more doctors today are taking special interest in the rheumatic diseases, and in nearly every country rheumatologists are organizing themselves into rheumatism associations. From this it is inevitable that rheumatic patients must benefit; the final test of every advance in medicine is: "Does it benefit the patient?"

It will ever be to Leslie Parr's credit that he kept the emphasis on the true needs of the rheumatic patient.

## Public Health.

### LEAD REGULATIONS.

THE Director of the Division of Industrial Hygiene, New South Wales Department of Public Health, has supplied the following notes on the New South Wales regulations to secure the safety and health of employees in factories in which lead processes are used.

The regulations were gazetted, after consultation with the industry, on December 21, 1956; they replace earlier regulations controlling working conditions (a) where electric accumulators are manufactured or repaired (1928), (b) where certain lead compounds are produced (1929) and (c) where lead processes are used (1940).

The following résumé will be of interest to those medical men employed by factories to supervise the health of their lead workers.

The new regulations do not apply either to the blending of motor fuel with tetraethyl lead or to the handling of compounds containing less than 5% by weight of lead.

There are many detailed requirements relating to the structure of the premises, the need for adequate working

space, lighting, good housekeeping and the storage of materials *et cetera*. Certain operations, such as the pasting of electric accumulator plates or the manipulating of dry oxide of lead, must not be carried out in the same room as other processes.

Because of the risk of lead poisoning, the factory occupier must provide washing facilities, lockers and a meal room. Such amenities must conform to the prescribed standard.

Because of the danger from dust and fumes, certain processes, such as the melting of lead at temperatures exceeding 450° C. or the group assembly of electric accumulator plates, must be performed under a local exhaust system. The latter must be designed in such a way so as to fulfill certain requirements.

Each person employed in a lead process must be provided with adequate protective clothing; depending upon the nature of his work, he may require an approved respirator, gloves, an apron, suitable footwear or overalls.

Employment restrictions have been placed upon females and males under eighteen years of age. The factory occupier must also keep a health register, in which he has to enter the names, addresses and duties of all persons employed in a lead process. Likewise, details of illnesses lasting more than two days must be recorded.

The requirements of Section 15, relating to the examination of lead workers, will be of particular interest to medical practitioners. For convenience, this part of the regulations is reproduced, as follows:

15. (1) (a) A person employed in a lead process shall from time to time, whenever required so to do by the Chief Inspector or by an authorized medical officer, submit himself for medical and/or pathological examination by the Director-General or by an authorized medical officer,<sup>1</sup> at such reasonable time and place as the Chief Inspector or such officer may direct.

(b) Such examination may include—

- (i) a general clinical examination for signs and symptoms of lead poisoning or evidence of lead absorption to a degree likely to injure his health;
- (ii) the obtaining of sufficient blood and urine for subsequent pathological examination.
- (c) When such examination is performed by an authorized medical officer the occupier of the factory shall, within seven days of his being notified of the results hereof, submit such results to the Director-General.

(2) The occupier shall take all such reasonable steps to facilitate the examination as the Chief Inspector or authorized medical officer may pursuant to this Regulation direct.

(3) Following such examination an entry shall forthwith be made by the occupier in the health register indicating whether or not the person examined has been found to be suffering from any degree of lead poisoning and, if so, the particulars of such poisoning.

(4) When a person has been required pursuant to this Regulation to submit himself for examination and has, without reasonable excuse, failed to do so—

- (a) such person shall be guilty of a breach of these Regulations;
- (b) the occupier of the factory shall not, while such failure continues, knowingly employ such person in a lead process.
- (5) If, after making an examination pursuant to this Regulation, the Director-General or the authorized medical officer considers that the person examined has absorbed lead or is absorbing lead to an extent likely to be injurious to his health, the Chief Inspector may by notice in writing given to him or to the occupier of the factory in which he is employed, require—

- (a) that such person, during a period specified in the notice, shall not work overtime at a lead process; or
- (b) that such person during such period shall not be employed at any lead process or in such lead process or processes as may be specified in the notice; or

<sup>1</sup> "Authorized medical officer" means "a legally qualified medical practitioner authorized by the Director-General of Public Health to exercise the powers of an authorized medical officer under these regulations".

(c) that such person during such period shall not be employed in any factory to which these Regulations apply, or in such factory (being a factory to which these Regulations apply) or part thereof or such class of such factories as may be specified in the notice.

A person to whom such a notice has been given shall comply with the terms thereof: Provided that such person may within seven days from the giving of the notice appeal therefrom to the Minister, whose decision shall be final. The Chief Inspector may at any time, by notice in writing given as aforesaid, revoke or vary the terms of any notice given pursuant to this paragraph.

Additional information concerning these regulations may be obtained from any office of the Department of Labour and Industry or from the Director of the Division of Industrial Hygiene at 86-88 George Street North, Sydney.

## Australian Medical Board Proceedings.

### NEW SOUTH WALES.

The following additions and amendments have been made to the Register of Medical Practitioners for New South Wales in accordance with the *Medical Practitioners Act*, 1938-1955:

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (2) of the Act: Dabrowski, Edward; Sutton, Paul.

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (a) of the Act: O'Connor, John Desmond Critchley, M.B., B.S., 1952 (Univ. Adelaide), D.T.M. and H. (Sydney), 1954; Ryan, Brian Patrick Kennedy, M.B., B.S., 1938 (Univ. Melbourne), D.G.O., D.C.H., L.M. (Dublin), 1954, M.R.C.P. (Edinburgh), 1955; Smythe, Darrel John Clare, M.B., B.S., 1944 (Univ. Queensland); Townsend, Norman Charles Wilson, M.B., B.S., 1956 (Univ. Adelaide).

Registered medical practitioners who have complied with the requirements of Section 17 (3) and are registered under Section 17 (1) (b) of the Act: Alstad, Karl Severin, M.B., Ch.B., 1936 (Univ. Glasgow), D.P.H., 1938, M.D., 1944 (Univ. Glasgow), M.R.C.P. (Edinburgh), 1946; Bowler, Eric Richard, M.B., Ch.B., 1950 (Univ. Sheffield); Hillier, Doreen Elisabeth, M.B., Ch.B., 1951 (Univ. Bristol); Hillier, Geoffrey John, M.B., Ch.B., 1953 (Univ. Bristol); Kyle, Peter Younger, M.B., Ch.B., 1954 (Univ. Edinburgh); Lyttle, James Edward, M.B., B.Ch., 1954 (Univ. Belfast); Scudamore, Joan Margaret, M.B., Ch.B., 1948 (Univ. Aberdeen), D.C.H. (England), 1951; Unwin, Philip Edmond Ralph Byrom, M.R.C.S. (England), L.R.C.P. (London), 1938; Walsh, Thomas, M.B., B.Ch., 1950 (Nat. Univ., Ireland).

Registered medical practitioners who are required to complete twelve months' hospital service in accordance with the provisions of Section 17 (3) and are registered under Section 17 (1) (b) of the Act, the qualification being in each case M.B., B.S., 1957 (Univ. Sydney): Ackerman, Valentine Peter; Adams, Adrian John Stirk; Anthony, Michael; Appel, Margaret Rosalie; Appenzeller, Judith; Appenzeller, Otto; Aroney, Charles James; Arundell, John Kevin; Atkinson, Raymond J. M.; Au, Raymond Daniel C. K.; Baker, William Michael; Balandin, Russell V.; Bashir, Helen Victoria; Bates, Edward Henry; Beer, John Charles; Bencsik, Albert Frank; Benz, William Victor; Berry, Francis Robert; Billam, June Margaret; Blumer, Alfred John; Blumer, Robert George; Blundell, James Edward; Brave, Keith Stanley; Brown, John Maxwell; Buckler, Edward George; Bune, Hilda Dorothy; Burchett, Peter Martin; Burrow, Marea Graham; Campbell, John Bryan; Castaldi, Peter Anthony; Chapman, Francis Clement; Chapman, Robert James; Clyde, Jeffrey Ross; Cockburn, Campbell G.; Colbourn, Isobel Faith; Colless, Helen Wynn; Cooper, Ian Allan; Coorey, Glen John; Coppleson, Lionel Warwick; Crakanthorp, John C.; Davies, Ann Louise; Davis, Ross; De Jersey, Ian Jeffrey; D'Souza, Frank Joseph; Evans, Hazel Jocelyn; Evans, Peter John; Field, James Henry; Fitzpatrick, Terence E. M.; Fraser, Donald Ivor A.; Gaha, Thomas John; Gallagher, Neil David; Goldrick, Veronica Marie; Gould, Graham Roger; Graham, Owen Aubrey; Gray, Richard William; Gunn, Elizabeth Janet; Haber, Richard William; Ham, John Mackenzie; Harrington, Geoffrey J.; Hartnett, Brian John S.; Healy, John Kevan; Henry, John Graham; Hugh, Thomas

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED APRIL 6, 1957.<sup>1</sup>

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism ..	3	..	8(4)	..	2(1)	..	..	..	13
Amoebiasis ..	..	..	..	1(1)	1	..	..	..	2
Ankylostomiasis ..	11	..	..	..	..	..	..	..	11
Anthrax ..	..	..	..	..	..	..	..	..	..
Bilharziasis ..	..	..	..	..	..	..	..	..	..
Brucellosis ..	..	..	..	..	..	1	..	..	1
Cholera ..	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus) ..	..	..	..	..	..	..	..	..	..
Dengue ..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) ..	4(2)	22(21)	6	..	3	..	..	..	35
Diphtheria ..	2	2(2)	1	..	2(2)	..	..	..	7
Dysentery (Bacillary) ..	..	..	11	..	1(1)	..	..	..	12
Encephalitis ..	1	..	..	..	..	..	..	..	1
Filariasis ..	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice ..	..	..	..	..	..	..	..	..	..
Hydatid ..	..	..	..	..	..	..	..	..	..
Infective Hepatitis ..	46(19)	32(12)	..	4(4)	2(1)	5	3	..	92
Lead Poisoning ..	..	..	..	..	..	..	..	..	..
Leprosy ..	..	..	..	..	..	..	1	..	1
Leptospirosis ..	..	..	4	..	..	..	..	..	4
Malaria ..	..	1(1)	2(2)	..	..	..	1	..	4
Meningococcal Infection ..	1(1)	2	..	..	..	..	..	..	3
Ophthalmia ..	..	..	..	..	..	..	..	..	..
Ornithosis ..	..	..	..	..	..	..	..	..	..
Paratyphoid ..	..	..	..	..	..	..	..	..	..
Plague ..	..	..	..	..	..	..	..	..	..
Pollomyelitis ..	2(1)	..	2	..	2(1)	..	..	..	6
Puerperal Fever ..	..	1	1(1)	..	..	..	..	..	2
Rubella ..	..	21(18)	..	12(5)	3(3)	..	1	..	37
Salmonella Infection ..	..	..	..	..	..	..	..	..	..
Scarlet Fever ..	9(4)	14(5)	6(2)	4(3)	1	..	..	..	34
Smallpox ..	..	..	..	..	..	..	..	..	..
Tetanus ..	..	1(1)	..	..	..	..	1	..	2
Trachoma ..	..	..	..	..	7(2)	..	..	..	7
Trichinosis ..	..	..	..	..	..	..	..	..	..
Tuberculosis ..	16(10)	16(8)	6(2)	9(7)	3(5)	4(3)	1	..	54
Typhoid Fever ..	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne) ..	..	..	..	..	1(1)	..	..	..	1
Typhus (Louse-borne) ..	..	..	..	..	..	..	..	..	..
Yellow Fever ..	..	..	..	..	..	..	..	..	..

<sup>1</sup> Figures in parentheses are those for the metropolitan area.



Benedict; Hyslop, Raymond Stanley; Jaworska, Maria; Jeremy, Ross; Kerr, Charles Baldwin; Kidd, James Douglas; Kidson, Cheviot S. De V.; Kinder, Kingston Alfred; Lal, Harold Song-Tat; Lambert, Godfrey Meyer; Lamrock, Marion Clare; La Vere, Graham Vaughan; Lee, Violet Suet Lang; Levick, William Russell; Lickiss, Jean Norelle; Livingston, Lorraine J.; Lorentz, Ivan Thomas; Lynch, John Michael J.; McCredie, Kenneth John; McDonald, Barry John; McMahon, Lynn Hamilton; Mackenzie, Kenneth James; Mahony, George Grahame; Manton, William Norton; Marshall, Anne Veronica; Melov, John; Mitchell, Trevor Ashton; Mobbs, George Anthony; Moriarty, John Gerard; Mulvey, Peter Maxwell; Noble, Neil Robert; Notaras, Mitchell James; O'Brien, Peter John, O'Hare, William De Burgh; O'Leary, John Joseph; O'Neill, Barry James; O'Sullivan, Joseph John; Paine, John Landsell; Palmer, Michael John S.; Pegum, Brian Francis; Powell, Keith Cameron; Pryor, Alistair Whitfield; Reading, Anthony John; Rieger, Gerald Stephen; Robins, Warren; Rozenberg, Maurice C.; Rugless, Kenneth Robert; Rush, Bryan McKay; Sachdev, Avtar Singh; Scarf, Garry Eugene; Sertori, Joseph Gerard; Shaw, Bernard Gladstone; Seitsma, Anton Samuel J.; Snape, Geoffrey; Spicer, George Leopold; Stewart, Peter William; Talbot, Robert Grayson H.; Taylor, Roy Francis Le C.; Teo, Philip Seng Kee; Thomas, Laurel P. A.; Thong, Francis K-Y.; Tracey, Rodney Michael; Turner, James Edward; Wall, Arnold William; Wallner, Darrell Peter; Way, Maxwell Charles; Whitley, Warren; Williams, Graham Knox; Williamson, Judith Anne; Wilson, John Richard; Wilson, Victor Mills; Wong-See, Jenson J-S.; Woodhouse, Marie Alison.

A Certificate of Regional Registration has been issued to Dr. Aron Goldberg for practice in the Kenny's Knob, Snowy Mountains Region, New South Wales.

#### QUEENSLAND.

THE following have been registered, pursuant to the provisions of Section 19 (1) (a) and (d) of *The Medical Acts*, 1939 to 1955, of Queensland: Kaye, David Alexander Gordon, M.R.C.S. (England), L.R.C.P. (London), 1943; Tynan, Peter Anthony, M.B., B.S., 1952 (Univ. Melbourne).

The following have been registered, pursuant to the provisions of Section 19 (1) (a) and (c) of *The Medical Acts*, 1939 to 1955, of Queensland: Langley, Noel Frederick, M.B., B.S., 1955 (Univ. Queensland); Flanagan, Patrick Henry, M.B., B.S., 1955 (Univ. Queensland); Reid, Raymond Richard, M.B., B.S., 1956 (Univ. Queensland); Rothberg, Brian Harry, M.B., B.S., 1956 (Univ. Melbourne).

The following additional qualifications have been registered: Tonge, John Iredale, M.C.P.A., 1956; Cantamessa, Remo, F.R.C.S. (Edinburgh), 1955; Smyth, Francis George, M.S., 1956 (Univ. Queensland), F.R.A.C.S., 1956; Yaxley, Ronald Peter, F.R.C.S. (Edinburgh), 1955, F.R.C.S. (England), 1956; Garlick, Frank Hender, M.S., 1956 (Univ. Queensland), F.R.A.C.S., 1956.

The undermentioned persons (all having the qualifications M.B., B.S., 1957 (Univ. Queensland)) have been granted limited registration as medical practitioners, pursuant to Section 20 (3) of *The Medical Acts*, 1939 to 1955: Beardmore, Graeme Leslie; Beeston, Hugh Olivey; Crawford, Robert Harold; Fletcher, Garth Trevor; Ganter, Arthur Errol; Lonergan, Francis Noel; Previtera, Sebastiano; Schureck, Ralph John.

#### Honours.

#### THE MOST VENERABLE ORDER OF THE HOSPITAL OF SAINT JOHN OF JERUSALEM.

HER MAJESTY THE QUEEN has honoured the following medical practitioners by promotion in or admission to the Most Venerable Order of the Hospital of Saint John of Jerusalem:

Air Vice-Marshal Edward Alfred Daley, C.B.E. (Victoria). Major-General Frank Kingsley Norris, C.B., C.B.E., D.S.O., E.D. (Victoria), and Dr. Trevor Claude James (Tasmania) have been promoted to be Commanders (Brothers) in the order.

Dr. Norman Caldwell (New South Wales), Dr. Allan Melrose Purves (New South Wales), Dr. Valdemar Carl

Dyring (Victoria) and Dr. Lachlan Neil Gollan (Tasmania) have been promoted to be Officers (Brothers) in the order.

Dr. Jack Valdemar Lofberg (New South Wales) and Dr. John Lewis Grove (Tasmania) have been admitted as Serving Brothers in the order.

#### Medical Appointments.

Dr. J. Allison-Levick has been appointed Deputy Superintendent of the Repatriation Mental Hospital, Bundoora, Victoria.

Dr. O. E. Nothling has been appointed a member of the Queensland Radium Institute.

#### Deaths.

THE following deaths have been announced:

GRANT.—Robert Grant, on April 10, 1957, at Mackay, North Queensland.

HOLMES A COURT.—Alan Worsley Holmes A Court, on April 16, 1957, at Sydney.

#### Diary for the Month.

- MAY 1.—Victorian Branch, B.M.A.: Branch Meeting.
- MAY 1.—Western Australian Branch, B.M.A.: Branch Council.
- MAY 1.—South Australian Branch, B.M.A.: Council Meeting.
- MAY 2.—South Australian Branch, B.M.A.: Scientific Meeting.
- MAY 3.—Queensland Branch, B.M.A.: General Meeting.
- MAY 7.—New South Wales Branch, B.M.A.: Organization and Science Committee.

#### Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

**New South Wales Branch** (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

**Queensland Branch** (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

**South Australian Branch** (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

#### Editorial Notices.

MANUSCRIPTS forwarded to the office of this journal cannot under any circumstances be returned. Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary be stated.

All communications should be addressed to the Editor, THE MEDICAL JOURNAL OF AUSTRALIA, The Printing House, Seamer Street, Glebe, New South Wales. (Telephones: MW 2651-2-3.)

Members and subscribers are requested to notify the Manager, THE MEDICAL JOURNAL OF AUSTRALIA, Seamer Street, Glebe, New South Wales, without delay, of any irregularity in the delivery of this journal. The management cannot accept any responsibility or recognize any claim arising out of non-receipt of journals unless such notification is received within one month.

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